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Defense Secretary Caspar W. Weinberger with Crown Prince Abdullah bin Abdul Aziz of Saudi Arabia during welcoming ceremonies at the Pentagon on Tuesday.

## U.S. Warns Tehran On Further Attacks

WASHINGTON — The United States warned Iran on Tuesday that it would again retaliate for any hostile action against it in the Gulf as U.S. warships began escorting another tanker convoy from Kuwait.

Defense Secretary Caspar W. Weinberger said the United States sought no further hostilities but was ready to deal with any Iranian response to Monday's U.S. attack on an Iranian oil complex. The United States said the complex was being used to launch military operations.

Meanwhile, the Senate voted, 92-1, for a nonbinding measure endorsing Monday's U.S. attack.

The Defense Department later said that U.S. warships had begun escorting two U.S.-flagged Kuwaiti tankers out of a Kuwait port.

Asked if the United States was prepared for a war with Iran, Mr. Weinberger told a television interviewer: "Well, we are prepared to think for whatever eventualities emerge from this situation but we don't look on it as a war."

He said he did not know if Iran would carry out its threat to retaliate for Monday's assault, which was in response to an Iranian missile attack Friday on a U.S.-flagged oil tanker in Kuwaiti waters.

Iran's leaders on Tuesday denounced the U.S. assault and threatened retaliation.

Iran said the U.S. attack had caused \$500 million in damage.

Hashemi Rafsanjani, the speaker of the Iranian Majlis, or parliament, was quoted by the Tehran radio as saying that, "God willing, we will carry out our duty in the coming days and make them sorry."

President Ali Khamenei said the U.S. attack had no military value. "To strike an oil rig is not an achievement to boast of," the national news agency IRNA quoted him as saying.

Mr. Weinberger, while declaring U.S. readiness to deal with any Iranian military action, emphasized that the United States sought no further hostilities.

"We're not at war," he said. "We're not seeking to expand the conflict. We're not seeking to have any kind of additional aggressive measures at all."

In London, Secretary of State George P. Shultz also said the United States sought no further hostilities.

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

See GULF, Page 2

## Wall Street Rallies, Dow Gains 102; Losses Deepen in Tokyo and London

### Markets in Europe, Asia Driven Lower by Turmoil

Compiled by Our Staff From Dispatches

Wall Street's historic crash on Monday reverberated through financial markets around the world on Tuesday, leading to record one-day drops in London and Tokyo and the closing of the Hong Kong exchange.

Most European markets were down sharply, although losses in some cities were cut in late trading. In London, the Financial Times 100-share index ended 250.70 points, or 12.22 percent, lower at 1,801.60. This fall came on top of the previous record plunge of 249.60 points on Monday.

In Paris, stock prices actually recorded a gain, although of less than 1 percent, reacting to an encouraging market opening in New York.

The start of trading on the Milan stock exchange was postponed an hour on orders from the National Commission for Stock Exchange Companies. By the close, stocks there were down 4.4 percent.

In Frankfurt, the other major European exchange, dealers said trading was chaotic, with some stocks drastically losing value and others rising. The Commerzbank index ended down 4.3 percent.

In Athens, cautious officials closed down the stock exchange for the day.

In Tokyo, the 225-share Nikkei Average, Japan's main barometer of stock performance, slipped 3,836.48 points, or 14.9 percent.

The decline far exceeded the previous record fall of 10 percent recorded following the death of Stalin on March 5, 1953, market officials said.

Analysts said the devastating 508-point plunge in the Dow Jones average on Monday, which had been fed by the declines in overseas

trading early that day, spilled back onto Tuesday's activity.

The Hong Kong Stock Exchange, stunned by record losses, suspended shares and futures trading for the remainder of the week.

The surprise announcement by the exchange's president, Ronald Li, came after the Hong Kong market suffered its worst one-day loss as share prices tumbled 11 percent Monday on the local Hang Seng index.

The suspension of trading is "to protect the investors and allow brokers to settle the backlog" from Monday's heavy trading, Mr. Li said.

Panic selling hit the Sydney Stock Exchange at the opening bell on Tuesday, with traders slashing 50 billion Australian dollars (\$36 billion) off the value of shares as investors dumped stocks across the board in the biggest fall in the market's history.

The visitors' gallery at the Sydney Stock Exchange was packed by small investors watching their fortunes turn to paper. It was pandemonium on the floor, with sellers rushing around trying to find buyers.

The Singapore stock market also fell as investors scrambled to get rid of shares. There was not a single gain among the 143 issues, with blue chips recording staggering falls.

"This is worse than in 1929," said S.H. Chan, an analyst with P.H. Morgan Associates. "Every- one is rattled it's happening so fast."

Stock markets also plunged in Malaysia, the Philippines, Taiwan and South Korea. (Articles about the European and Asian markets, Page 7.)

(UPI, AP)



### U.S. Treasury Chief Under Fire

James A. Baker 3d, the U.S. Treasury secretary, arriving in Washington on Tuesday after cutting short a European trip. Last weekend, Mr. Baker criticized West Germany for raising interest rates, seeming to signal an unraveling of an accord to stabilize currency values. Nigel Lawson, the British chancellor of the Exchequer, was among those who said Mr. Baker's comments had helped spur a wave of stock sales worldwide.

### Related Articles

- Shares plummet in Asia and Europe. Page 7.
- Privatization strategies in France and England are considered to be in jeopardy. Page 7.
- Investors seek a haven in U.S. bonds. Page 11.
- U.S. corporations begin stock repurchases. Page 12.
- The dollar rebounds in volatile trading. Page 13.
- U.S. Democrats call for 'economic summit.' Page 3.

### World Stocks Continue Failing

City	Index	Point	Percentage
London	1,801.60	-250.70	-12.22
Paris	1,869.40	+74.70	+0.79
Frankfurt	21,910.08	-3,836.48	-14.90
Tokyo			

## U.S. Stock Slide Seen Adding to Risk of Recession

By John Mechan

INTERNATIONAL HERALD TRIBUNE

NEW YORK — The historic plunge in stock prices in recent days threatens to trim U.S. economic growth next year and adds to the risk that the economy could slip into recession, many economists said Tuesday as they assessed the damage to investor confidence.

According to these analysts, the economic consequences of Monday's 508-point plunge on the New York Stock Exchange, a slide that wiped out an estimated \$500 billion in equity value, could include curtailed consumer spending and reduced investment in new plants by corporations.

"It's one more indicator of the rocky road ahead," said C. Fred Bergsten, president of the Institute for International Economics, a private group based in Washington.

Conventional wisdom holds that the stock market is one of the best leading indicators for the economy, and past market downturns have heralded recessions.

The Great Depression of the 1930s was preceded by the stock market crash of 1929.

Economists said they do not believe the economic repercussions from the market's decline will bring on a depression.

Many safeguards have been created since 1929 to insulate the

economy from violent stock market swings. Moreover, many analysts said it was premature to say that an economic downturn was a certainty at this point.

But fear of a recession is at its highest level in some time. And many economists who have been warning of a recession in late 1988 and 1989 are moving up the schedule.

The first casualty of the market's slide could be consumer spending.

Many economists have credited the public's surprisingly healthy appetite for consumer goods with helping to sustain U.S. economic growth.

But American consumers are

clearly frightened by what is happening in the stock market, and economists are no longer sure whether they will maintain current spending levels.

Many suspect that millions of Americans have a real or imagined feeling of being less well-off than they were last week. As a result, many may postpone plans to purchase big items such as automobiles, appliances and new homes.

As a way of illustrating this concern, Fidelity Investments Co. in Boston, one of the nation's biggest mutual fund managers, reported 200,000 phone calls from investors on Monday, compared with 110,000 in a normal business day.

Most, a spokesman said, were eager to get out of stock mutual funds and into money-market funds.

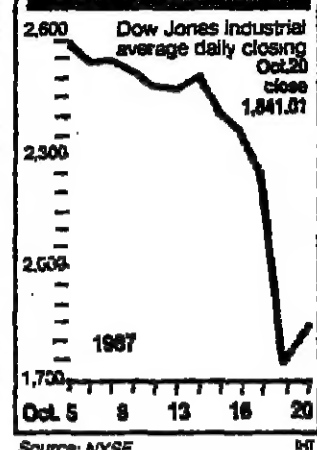
"People are going to be more tight-fisted with their money," said Robert Hormats, vice president of Goldman, Sachs & Co., an investment banking firm.

"If people were thinking of going out to dinner, they may end up staying home," he said. "And if someone had plans to buy a new refrigerator, they may decide to keep the old one."

Likewise, Geoffrey H. Moore, director of the Center for International Business Cycle Research at

See SLIDE, page 13

### Upturn For the Dow



on Monday. Both figures outstripped the previous record of 338 million set on Friday.

The massive volume caused delays in the New York Stock Exchange's price reporting, with its tape running more than an hour behind after the official close.

When trading began, dealers reported intense bargain-hunting, and dozens of unfilled buy orders pushed up the Dow average by 65 points in the first few minutes. On Monday, the index closed at 1,738.74, the lowest level all year.

The percentage drop had been the biggest since the 12.9 percent slump on Oct. 28, 1929.

Among the buyers were several U.S. companies, stepping in to repurchase shares that had been battered by the selling stampede.

"On my list of positive market factors, the buybacks are number one," said Larry Wachtel, market strategist at Prudential Bache Securities.

"Between corporate repurchases and the fact that the market remained open, people can go home with a little more confidence in equities," said Edward Shopton, partner in charge of institutional equities at Mabon Nugent & Co. But he said people still were "incredibly jumpy."

Paradoxically, the jump in U.S. government bond prices that helped bolster share prices was

See MARKET, page 8

## Computer Trading: A Culprit?

Compiled by Our Staff From Dispatches

NEW YORK — In the aftermath of Monday's historic market plunge, the New York Stock Exchange asked its member brokers Tuesday not to use the exchange's facilities for computerized trading related to stock indices, including the new technique called portfolio insurance.

John J. Phelan Jr., chairman of the NYSE, said the request would remain in effect until trading volume, which set records both Monday and Tuesday, subsided. The volatility of Tuesday's trading, however, indicated that the request was being ignored. The Dow Jones industrial average fluctuated within a range of nearly 300 points during the day.

Mr. Phelan warned a Washington audience last December that portfolio insurance could someday lead to a "financial meltdown."

The markets laughed him off. But Mr. Phelan's term may now have burned itself into the stock market's permanent lexicon.

There are strong indications that the computerized programs, designed to hasten selling when the markets turn down in an effort to protect clients from the impact of sharp declines, inspired the past week's waves of selling.

The leading insurance technique involves selling not stocks, but related stock-index futures, and using the proceeds to offset stock losses. As the selling waves hit the futures markets, they drive futures prices down, which in turn drag stock prices down.

People who sell portfolio insurance acknowledged that it failed in recent days to protect clients from losses. The reason is that stock-index futures have collapsed as much or more than stock prices.

"Portfolio insurance had a lot to do with creating this market," said Preston W. Estep, head of a leading portfolio insurance firm. "Every- one who deals in it will have to go back and do what they can to repair the damage to their reputations."

(LAT, AP, Reuters)

Jacqueline du Pré, the British cellist whose career was interrupted by multiple sclerosis, is dead at 42. Page 2.

General News

India said its troops had cut off the escape routes of Tamil rebels in Sri Lanka. Page 2.

Vice President George Bush, in a gamble, has begun to move to the political center. Page 3.

Dow close: UP 102.27  
The dollar in New York:  
DM £ Yen FF  
1.8105 1.6315 143.95 6.942

## From Billionaires' Row: It's Only Paper

Compiled by Our Staff From Dispatches

NEW YORK — "It's paper anyway," said a philosophical Sam Walton, reflecting on the more than half-a-billion-dollar loss his assets sustained in the stock market plunge.

Mr. Walton, reputedly the richest man in the United States, added, "It was paper when we started and it's paper afterward."

Until recently, Mr. Walton, the chairman and chief executive officer of Wal-Mart Stores Inc., had an \$8.45 billion stake in the company, according to Forbes Magazine.

The decline in the stock market in recent months pushed down the value of the family's stake to \$6.32 billion. Black Monday wiped a further \$517.8 million off those assets, leaving the Walton holdings at about \$5.8 billion.

Mr. Walton was attending a conference on education in Little Rock, Arkansas, on the day the Dow Jones industrial average

dropped 508 points. He seemed unfazed by the news.

"As far as I'm concerned, we're focusing totally on the company doing well and taking care of our customers," he said.

He was back at his desk in Arkansas on Tuesday, still proclaiming his lack of personal concern. But he said he did worry about the company's stockholders.

Another Arkansas billionaire, Don Tyson, chairman of the Tyson Foods Inc. poultry concern in Springdale, was similarly blasé about his losses. "Basically, we'll run the chicken business and let the market take care of itself," he said.

On paper, at least, there were other big losers among Forbes' list of the 400 richest Americans. According to calculations by The Associated Press, based on share prices after Monday's fall, William Hewlett's share in

Hewlett-Packard Co., the computer manufacturer, dropped \$265.9 million.

Leslie Wexner, chairman and president of The Limited Inc., a clothes retailer, lost an estimated \$195.7 million; August Busch Jr., the chairman of Anheuser-Busch Companies Inc., the brewer, lost \$189.4 million; and Edgar Bronfman, the chairman of Seagram Co. Ltd., lost \$126.3 million.

The net worth of Bill Gates 31, co-founder of Microsoft Corp., who was listed by Forbes as the youngest billionaire, fell to about \$950 million; a week ago he had a net worth of about \$1.5 billion.

Microsoft officials said Mr. Gates was not particularly worried. "He doesn't pay that close attention on a day-to-day basis," said Raymond Ferguson, Microsoft's director of investor relations.

(AP, UPI)

William Hewlett, Hewlett-Packard Co. Estimated loss: \$265.9 million

Edgar Bronfman, Seagram Co. Ltd. Estimated loss: \$126.3 million

Leslie Wexner, The Limited Inc. Estimated loss: \$195.7 million

Sam Walton, Wal-Mart Stores Inc. Estimated loss: \$517.8 million







## J.S. Democrats Urge Reagan to Join Them in 'Economic Summit'

By Tom Kenworthy  
Washington Post Service

WASHINGTON — Democratic congressional leaders, responding to the Reagan administration's proposal to join them in an "economic summit" meeting to resolve the nation's budget impasse and stalled economic problems.

Nonetheless, a new round of negotiations broke out between Capitol Hill and the White House over a Democratic plan to raise taxes, even as lawmakers from both sides said the summit on the stock market necessitated an end to the partisan squabbling that has marked this year's debate over the nation's budget and trade deficits.

There were appeals for a negotiated end to the budget stalemate as congressmen worried about the impact of Monday's stock market plunge, as well as a general realization that the government's fractured response to the fiscal deficit contributed to the economic problems.

The House speaker, Jim Wright, called for an end to partisan political posturing, finger-pointing and blame placing. The Texas Democrat urged President Ronald Reagan to join Congress in "convening an economic summit without crippling preconditions, to deal with America's long-term structural problems."

The Senate Democratic majority leader, Robert C. Byrd of West Virginia, urged Mr. Reagan "to meet up to reality" by negotiating with congressional leaders on the deficit to "show the American people and investors all over the world that this government is capable of doing."

The chairman of the Senate Budget Committee, Lawton Chiles, Democrat of Florida, introduced a resolution calling for such a summit meeting that included a long agenda of economic concerns including the fiscal and trade deficits, dollar stabilization, and reduction of Third World debt.

Senate Republicans reacted coolly to Mr. Chiles' resolution, calling it too broad, but even Minority leader Bob Dole, a Kansas Republican, urged that a high-level conference be convened to deal with that deficit out there (that) is public enemy number one.

However, in an appearance before the House Budget Committee, he laid out details of \$23 billion cuts that began taking effect Tuesday.

White House budget chief James C. Miller 3d reiterated Mr. Reagan's position that he would not participate in budget negotiations with Congress if a tax increase is part of the agenda.

"It's a very bad situation and I don't think the President is in the mood to do that right now, although he might change his mind," said Mr. Miller. "If you've got taxes on the table, the president wants off."

The budget chief also held to the argument, first put forward over the weekend by Treasury Secretary James A. Baker 3d, that the push for higher taxes and "protectionist" trade legislation by the Democratic-controlled Congress had contributed to the dislocations on world markets.

His repetition of the administration's consistent hard-line rejection of any tax increase angered Democratic members of the budget panel. They promptly voted on legislation that partially meets this year's \$23 billion deficit-reduction target by raising \$12 billion in taxes and saving another \$4.7 billion through changes in federal spending policies.

Despite the intensity of the partisan rhetoric on Capitol Hill yesterday, the financial shocks of the past week appeared to produce a new willingness among lawmakers to shoulder their share of the blame and to consider spending cuts that before seemed heretical.

"We're all part of the problem," said Representative Jim Slattery, a Kansas Democrat who is one of a growing number of moderates in his party calling for a balanced package of revenues and budget cuts.

**Budget Trimming Begins**  
President Reagan began Tuesday by systematically cutting \$23 billion in spending from federal programs under the budget-balancing law, because he and Congress have failed to compromise on a plan to reduce the federal deficit more selectively, the Associated Press reported from Washington.

The cuts are temporary, with the money held in escrow, because the law gives Congress and the president a month to find alternative ways of reducing the deficit for the 1988 fiscal year. But the cutbacks become permanent on Nov. 20 if a compromise is not reached.

**Bush, in Gamble, Edges Toward Political Center**  
By Gerald M. Boyd  
New York Times Service

WASHINGTON — Vice President George Bush, in an ambivalent political gamble, has begun to move toward the political center of the hope of capturing the Republican nomination, aides and analysts say.

The shift, evident as Mr. Bush formally announced his candidacy last week, is already fueling a new round of debate over the true political attitudes of the vice president all over what specific message he is now trying to convey.

Although it was clear from the outset that he was seeking to position himself as a moderate, it is far less clear from the specifics of those speeches where he was trying to place himself on the moderate-to-conservative spectrum.

My sense of it is that he is portraying himself as a moderate who wants to continue the basic mission of the Reagan revolution with no radical departure," said William Schneider, a political analyst with the American Enterprise Institute, a Washington research group. "The subtext of the message is that he will pay some attention to the errors."

The position Mr. Bush has assumed was clear in his first formal week of campaigning, designed to present what he termed "my passions" and "my agenda" for leading the country.

For example, he told supporters in Chicago, Cedar Rapids, Iowa, and Atlanta that he would not support reducing the federal deficit through a tax increase, as some Democrats are supporting. But he made no comment on whether he would cut military spending.

In fact, as he discussed reducing the federal deficit, he said at one point that "tough decisions" had to be made on which spending cuts to make. At another point last week, before the stock market collapse Monday, he said that a robust economic environment needed to be maintained to limit the need for spending cuts. He said Congress had the president had to "sit down and make a deal" on a way to reduce the deficit.

I guess that I can't argue with his assumption that he is trying to move back toward the center," said Eddie Maho, a campaign consultant, "but I guess I am at a loss to say why."

Although Mr. Bush has denied that he is distancing himself from the president, aides and other advisers say the tone struck by the

worth of across-the-board budget cuts that began taking effect Tuesday. White House budget chief James C. Miller 3d reiterated Mr. Reagan's position that he would not participate in budget negotiations with Congress if a tax increase is part of the agenda.

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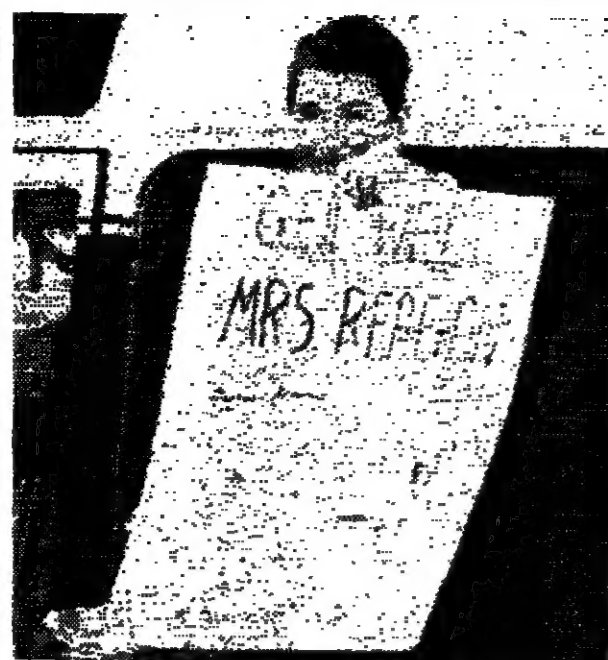
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**EXECUTIVE GREETINGS** — President Ronald Reagan arriving at Bethesda Naval Hospital to visit his wife, Nancy. Mrs. Reagan was "recovering very well" from her breast cancer surgery, a White House spokesman said Tuesday, and may go home by the end of the week.

## AMERICAN TOPICS

### Women Firefighters Contest Physical Tests

U.S. fire departments have been hiring women for the past decade. Today, the 218,000 paid firefighters in the United States include 1,500 women, or less than seven-tenths of 1 percent. But the number of women has tripled since 1983, according to estimates by Women in Fire Suppression, which supports women firefighters.

The New York Times says that perhaps the most contentious issue over hiring women involves tests of physical speed and strength. In New York City, applicants are tested, among other things, on how long it takes them to drag a 50-foot (15-meter) hose 75 feet, carry a 46-pound (20-kilogram) hose up three flights of stairs and crawl through a 25-foot tunnel. The New York Supreme Court has ruled that the test is valid. But hiring procedures are

still being litigated in Cleveland, San Francisco and elsewhere.

Lauren Howard, who for years was the only woman in the Chicago fire department, said: "You have to ask yourself, if it was your child or mother, who do you want to go and get her down the ladder? Do you want somebody big, incredibly strong, extremely fast, or someone who is average?"

Linda Willing, a firefighter in Boulder, Colorado, is 5 feet 4 inches (1.64 meters) tall and weighs 112 pounds. She concedes she does not do some things well because of her size. But that same size means that "I'm the first one in to attic fires" and "I can stay longer in a fire than almost anybody I know — a lot of these big guys deplete an air pack in 10 minutes."

### Short Takes

Richard Arrington Jr., the first black mayor of Birmingham, Ala., has won a third four-year term with 64 percent of the vote to 35 percent for his white opponent. Mr. Arrington, 53, got 98 percent of the city's black votes and polled 10 percent among the whites, who make up 45 percent of the city's registered voters.

"They're still not comfortable with me," Mr. Arrington said of the whites. "But I won't give up on them." However, race was not an issue in this election as it had been in the two previous ones, and Donald Newton, a white who heads the Chamber of Commerce, said, "There is a feeling of approval of what he has done."

"According to a survey taken in 1985, about 11,000 high school youngsters were taking Japanese," The Washington Post says in an editorial. "That's more than most people would have expected, and Japanese instruction is expanding rapidly. But that number still represents well under one-tenth of 1 percent of the country's high school enrollments." The Post says the vast flow of transactions between the two countries "moves through an astonishingly small number of in-

terlocutors who know both languages, and at these crucial points of contact it is far more likely to be the Japanese partner who is bilingual."

Kevin Sweeney, press secretary to Gary Hart when the former Colorado senator was the leading contender for the Democratic presidential nomination, is now a waiter in a San Francisco restaurant. He makes occasional paid lectures, and says he has been offered posts in other political races in the \$50,000 range, but cannot work up the required enthusiasm for the candidates. Mr. Sweeney, 29, says he is undergoing a kind of intellectual decompression, reading George Orwell's "Down and Out in Paris and London" and being reminded of "the unbelievably liberating qualities of abject poverty."

In New York's Bowery neighborhood, long a haunt of derelicts, Jonas Prager told The New York Times he saw someone carrying this sign: **HELP SUPPORT RESEARCH ON THE IMPACT OF WINE ON THE HUMAN BODY**

—ARTHUR HIGBEE

## Nicaragua Bars Catholic Radio From Broadcasting News

By Stephen Kinzer  
New York Times Service

MANAGUA — The government has forbidden Nicaragua's newly reopened Roman Catholic radio station to broadcast news.

The station's first news program was to be broadcast at noon Monday, but employees said they were told late in the morning that any such transmission would be illegal.

The incident reflected the limits of recent steps toward expanded press freedom in Nicaragua. The country's Catholic hierarchy is as-

sociated with the anti-Sandinist opposition, and the radio station's director, the Reverend Bismarck Carballo, has had several clashes with the authorities.

Under terms of the new Central American peace accord, the government must guarantee "full freedom for television, radio and press" by Nov. 7. It would require other countries to stop aiding the rebels who are fighting to overthrow Sandinist rule.

Thus far, the government has taken two steps toward press freedom, permitting Radio Católica,

the Catholic station, and the opposition newspaper, La Prensa, to reopen.

La Prensa, which had been closed for 15 months, resumed publication Oct. 1. Radio Católica reopened the next day.

"We were preparing the news show when an Interior Ministry official telephoned and told us that the show was not authorized," said an employee at the Catholic station. "They said we could not begin transmitting the show until we received permission."

A spokesman for the Interior Ministry had no comment.

The station once broadcast a regular news program, but the government ordered it to stop in 1982. From then until the station was closed four years later, it broadcast only veiled political commentary, often in a religious context.

Much of the station's programming is religious, but several news programs were planned.

The government has not acted on a series of petitions to allow

other radio news programs to resume.

Nor has the opposition made any apparent progress in its effort to win a license to establish its own television station. A group of anti-Sandinist business leaders is seeking foreign aid to support such a station.

Last week, Oscar Arias Sánchez of Costa Rica, author of the new peace accord, said that the Sandinists would not be complying with the accord if they refused to allow a non-Sandinist television station.

The government has maintained a legal monopoly on television broadcasting since the 1979 Sandinist takeover. Several independent radio programs survive, but all operate under a form of self-censorship. The government halted more than 20 such programs when it imposed a state of emergency in 1982.

The peace accord requires an end to the state of emergency by Nov. 7. Senior Sandinist leaders have said repeatedly they intend to comply with all their obligations under the accord.

## Unfulfilled Promises Erode Confidence in Latin Democracies

By Bradley Graham  
Washington Post Service

BUENOS AIRES — The euphoria with which South Americans welcomed democracy's sweeping return earlier this decade has given way across the continent to frustration and disappointment with the results so far.

While popular support for democratic rule remains strong, public unhappiness with the way the new democracies are being managed has grown and begun to worry many inside and outside government.

The dissatisfaction has yet to erupt into sustained street protests or other violence. But evidence indicates a disenchantment with politics and a lingering fear of repression. Signs of discontent are clear in opinion surveys, national elections and conversations with workers, politicians, diplomats, journalists, academics and others throughout the region.

Hopes persist that the democratic era will yet prove a historical turning point in a region long afflicted by swings between dictatorship and democracy.

Yet the failure of the free systems to deliver the economic gains, social advances and structural changes expected of them has soured national moods from Ecuador to Argentina and eroded the standing of all elected governments on the continent.

"There was perhaps an excessively optimistic vision in the beginning about what democracy

could do," said Marcelo Cavarozzi, an Argentine political scientist. "People are now discovering it cannot work miracles. Hopes have faded, the euphoria has disappeared."

In Argentina last month, voters registered their disillusion, handing President Raúl Alfonsín's centrist party a stunning defeat in gubernatorial and congressional elections, with the historically authoritarian Peronist party the winner.

In Brazil, President José Sarney, a hero last year for temporarily taming inflation, has become the target of disaffection as his government muddles through political infighting and the economy slows. Even the 38-year-old populist leader of Peru, Alan García Pérez, whose popularity rating hovered over 80 percent during his first 18 months in office, now is approved by only a third of the population, according to surveys.

Amid such gloominess, scattered voices in letters to editors and elsewhere have started calling for a return to military rule.

Democratic leaders have been moved to concede renewed promises to the armed forces. In Mr. Sarney's case it is due to a lack of civilian political support for his presidency. In Mr. García's case it is due to the spread of terrorist activity. And in Mr. Alfonsín's case it is due to uprisings by officers opposed to human rights trials.

Never confident of democracy's staying power, armed forces in the region still regard themselves as the ultimate saviors of their nations.

They rank among those most disgruntled with the way things are going. Some officers in Ecuador and Peru, in particular, make no secret of their wish to retake power to restore a sense of stability.

U.S. officials, whose encouraging winks and nods have been interpreted as green lights for military takeovers in the past, continue to make clear their support for today's insecure democracies. Quiet U.S. diplomacy may have been decisive recently in forestalling coup plans in Ecuador.

Eight years ago, only two democratic governments — Venezuela and Colombia — existed in South America. Today, only two military regimes — Chile and Paraguay —

survive among the continent's 11 Latin republics. In Panama, the military wields power indirectly.

Some prominent South Americans, such as the Peruvian writer Mario Vargas Llosa, contend that the democratic experience is still the most promising the continent has ever known. Free expression has returned. Democratic solutions to social and economic problems are out of fashion.

Argentina and Uruguay, the two countries with the largest middle class, are fighting to overcome years of stagnation just to climb back to income levels first reached a decade or more ago.

Brazil, whose resources and dynamism make it the most viable

Latin American nation, is seeing its urban slums wracked by violence, its countryside unsettled by land conflicts and its health and education services decayed by neglect.

In Peru, an ominous Maoist insurgency has resisted all measures to contain it. In Bolivia, an astonishingly bold and painful effort to reorder the old tin-based economy still has far to go to lift the nation, which is the poorest in South America, out of its perpetual state of crisis.

Even established democracies are under strain. Colombia, home to drug barons, leftist guerrillas and rightist assassination squads, is convulsed by the highest incidence of peacetime violence in the hemisphere.

Venezuela, its oil wealth diminished, is having to learn to live within tighter constraints.

Many had expected that the new responsiveness to popular will would bring swift cures to enduring ills. South American officials blame themselves for fostering higher expectations than were achievable.

"People wanted to believe in miracles, but we should have conveyed a stronger sense of the difficulties involved," said Carlos Niño, a senior aide to Mr. Alfonsín. "Many are now saying we should urge people to be more realistic and recognize that no government can do much better under the difficult circumstances."

### Former Reagan Official Tells of Slurs

The Associated Press

WASHINGTON — President Ronald Reagan's first secretary of education, Terrell H. Bell, says in a new book that midlevel administration officials made racist jokes and other "sexcrazed" remarks during discussions on civil rights.

Mr. Bell said the slurs included references to the Reverend Martin Luther King Jr. as "Martin Lucifer Coon" and to Title IX, a federal law guaranteeing women equal educational opportunities, as "the lesbians' bill of rights."

A White House spokesman, Martin Fitzwater, asked Tuesday whether there had been racist remarks, said: "I certainly haven't heard of any, and I think that would be wrong and, frankly, I don't believe it."

Mr. Bell's book is entitled "The Thirteenth Man: A Reagan Cabinet Memoir."

In it, he says that he was confronted with "evidence of apparent bias among midlevel right-wing staffers at the White House and at OMB," the Office of Management and Budget. "I was shocked to hear their sick humor and racist clichés."

He did not identify those to whom he was referring.

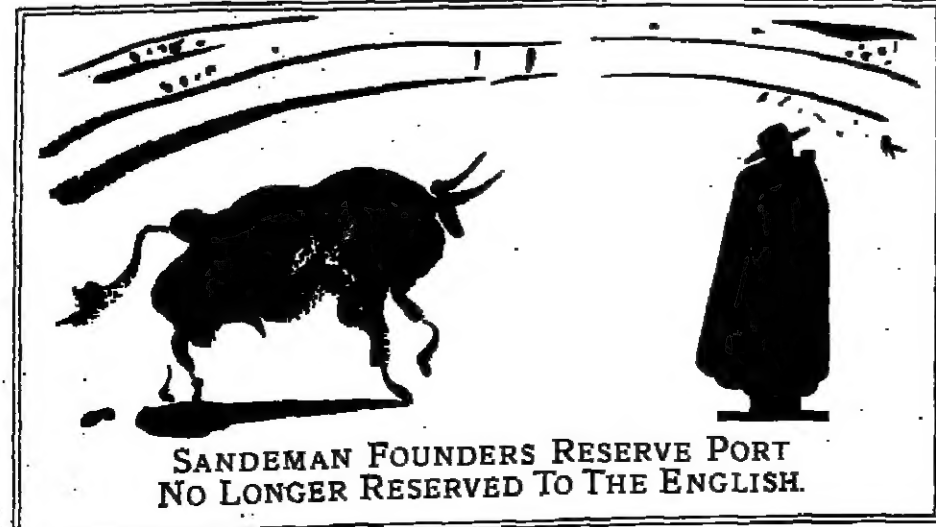
Mr. Bell said, "I do not mean to imply that these scurrilous remarks were common utterances in the rooms and corridors of the White House and the Old Executive Office Building, but I heard them when issues related to civil rights enforcement weighed heavily on my mind."

Mr. Bell left the cabinet at the end of 1984 after four years. He is now a professor at the University of Utah.

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ARTS / LEISURE

# Ovation for Short, Snug Ungaro

By Bernadine Morris  
New York Times Service

PARIS — Emanuel Ungaro Tuesday became the first designer to receive a standing ovation during the week of spring and summer fashion openings. His clothes were the shortest, snuggest and sexiest of any designers, an apotheosis of the miniskirt and a tribute to the female body, they are not likely to be surpassed.

## PARIS FASHION

The surprise is that in this time of liberated women such old-fashioned seductive styling would exert such a pull.

Reinforcing Kal Ruttenstein of Bloomingdale's, said they expected to barrel the clothes out by the carload as soon as they arrived in their stores. Private customers at the show sat on the edge of their seats almost holding their breath as they awaited the appearance of the next seductively draped style.

The designer has been working along these lines for some time. But these are surely the smallest, most tightly draped styles he has ever presented. Some dresses are no bigger than bathing suits. In draped leather or high-colored silks, they were usually accompanied by filmy silk coats, a necessary precaution if the wearer is going to spend any time in a public place.

Men's wear checks and plaids in black and white mingled with the finest fragile flower prints in what were suits. Both blouses and skirts are tightly draped while jackets are full, except for the tightly belted waistlines. Except for some silk slanting chemises, dresses are daintily molded and wrapped to the body. Everything is in glowing shades of green, yellow, pink or blue except for a few black silk dresses and these are worn with long colored gloves.

Evening dresses have ruffles, puffs or gathered swags of fabric at the hem, except for the ballgowns

which are minis with tripping overskirts.

It is an anomaly in a time when women are entering the professions and driving trucks that such fantasy clothes would have so much appeal. But the cheers indicated that Ungaro is clearly the man of the hour.

Valentino, the Rome designer, showed clothes that looked relatively conservative. He threw a high gloss over fashion's new short shapes, but he offered the wearer the chance to breathe. Fabrics looked luxurious and the detailing was wisely toned down. The result was quality clothes that look expensive and not too juvenile. Valentino brings a touch of reality to the short skirt era and makes short clothes look plausible.

He opened his show with the tailored suits for which he is famous. In glen plaids or white linens, his suits were sparked with tawny tiger stripes or leopard spots in blouses or belts. The navy suit, that spring perennial, looked jaunty with navy and white striped stockings and gloves with navy fingers and white palms. The spring coat is actually a jacket in such colors as orange, green or red. A new culotte skirt with a deep central pleat flares gently and moves gracefully.

Dresses in tiny flower prints have swirly tiered skirts, some with hems dipping to cover the back of the knees. Short skirts in twinkling fabrics will make attractive entrances on the evening fashion scene.

The short styles are so peppy and good humored, they make the long evening dresses look heavy. His customers need them for balls and embassy parties, Valentino said. One of his compromises works well. It consists of skinny long pants and tops nesting under flowing organza overskirts. Not for embassy parties, probably.

Short as it is, the Christian Dior collection misses. Despite shorts of strong color, it looks somber. Even the sun and flower motifs do not lift the mood.



Ungaro showed the shortest skirts in Paris.



Photographs by Rex Dowry

# Brilliant, Lyrical Duet for an Odd Couple

By Sheridan Morley  
International Herald Tribune

LONDON — Tom Kempinski's "Separation," at the Hampstead, confirms that theater on its Victorian path. Partially and often painfully autobiographical, it concerns a playwright who comes up with a two-character hit, not unlike Shakespeare's "A Midsummer Night's Dream." It is then imprisoned by a medical breakdown that freezes his type writer and makes him unable to leave a London flat.

The only other character in "Separation" is an off-Broadway actress crippled physically rather

than mentally, but about to star in his play, and therefore on the telephone in search of advice. For most of the evening the two only converse by long distance.

What develops from these conversations is an odd-couple romance interrupted on both sides of the Atlantic by acute anxiety attacks and all the agonies of a distant passionate relationship between two people unable to live apart or together, unable to deal with themselves or each other, and yet invincibly determined to go on trying against all the odds.

Sure, this is a sentimental and schmaltzy tale. But it is also a lyrical and loving account of a couple suddenly finding themselves on the fourth floor of a two-story building and uncertain what to do about getting down again.

David Suchet as the fat, middle-aged, insouciant playwright, and Sashia Reeves as his

spiky, edgy, fragile actress give in Michael Attenborough's fluent production two of the most brilliantly touching performances of the year.

The National Theatre's current passion for moving huge community plays to the Cottesloe continues

here he deals with another great 19th-century saga. This one in contrast with the West Country struggles between conservative religion (as represented by Tim Pigott-Smith's obsessive parson) and free-thinking capitalism (as personified by Judi Dench playing a fiery female brewer).

Peter Hall's production has its epic moments, not least the arrival of the first train in the town and then the sudden shocked realization that cholera has come there too. But, supped of its original location and moved from a Dorset community hall to a London theater, the script seems to hover between a pageant and a play.

There is a theory, largely sustained by the kind of people who see French examinations in schools, that Moliere's "Le Malade Imaginaire" is a major classic in need of constant attention. In reality it has been for more than 300 years a

thoroughly shaky little one-joke play about a fanatical hypochondriac trying to marry off his daughter to a doctor. Nothing in Nancy Meckler's often inventive but oddly humorless production for the Lyric Hammersmith can patch over the cracks that Moliere himself used to fill in for the original staging with a lot of daft ballets.

In Alan Drury's translation as "The Hypochondriac," one already used by the National, Meckler updates the setting so we first encounter the bedridden Argan working out on a computer his current medical bills. After a somewhat shaky first-night start the production settled into a kind of manic, anachronistic farce held together where possible by Tom Courtenay's wry, party-faced patient forever at the mercy of his appalling wife, and the phrases and crooks whom Moliere reckoned adequate representation of the medical profession.

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# Herald Tribune

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## After Black Monday

### Testing the Fire Walls

Now the world will learn about the fire walls between the stock market and the real economy of jobs, incomes and production — and whether they work. Those fire walls have been built with great care in the 58 years since 1929 to prevent a financial panic from spilling over into the kind of general collapse that became the Depression.

Diré though it has been, the stock market crash of the past week is still limited to stocks. Long-term interest rates are up a little and the dollar is down, but so far the damage is confined. The crucial question is whether it can be kept confined.

In Monday's drop alone, some three-quarters of a trillion dollars in assets evaporated. Unavoidably, that is going to have a severe impact on the rest of the economy. It translates immediately into houses that will not be built and cars that will not be bought. Some kinds of companies are going to be squeezed hard for cash. Will they go under? The possibility of a recession next year is now much higher than it seemed a week ago. But recessions are controllable.

The market's fall is irrational, overshooting even the most pessimistic assessment of the economy's future. The Dow Jones industrial average has dropped by one-third since the peak last August, but the companies it represents have not lost a third of their value. The crash has been feeding on itself as each hour's losses forced people to keep selling regardless of value.

The 1929 crash came at a point when the American economy was already sinking steeply into a recession. The present one comes amid steady expansion. That is a crucial difference. But there are other differences that are less favorable. The United States is now an international debtor, as it was not 58 years ago, and that makes it vulnerable to the flows of foreign investors' money. Worse, it has backed itself into a position in which its government has very little latitude to shift policy.

The budget is locked in a corrosive quarrel that President Reagan seems unwilling to resolve. Interest rates are usually a government's readiest instrument for adjusting the economy to unexpected blows, but not this year in the United States. If the Federal Reserve Board tries to lower interest rates, the exchange rate of the dollar will fall and inflation will rise. If it tries to raise rates, it will make a recession more likely. If foreigners join the panic and try to pull their money out of America, rates will rise regardless of the Federal Reserve's intentions. All those years of huge deficits have left the U.S. government immobilized and incapable of acting independently.

That is unfortunate, but maybe not fatal. Historians draw three great lessons from 1929-33. First, don't engage in perverse policy that makes things worse, like tightening monetary policy in a deepening recession or passing a flagrantly protectionist Smoot-Hawley tariff. Second, remember that the international linkages are much more important than politicians thought in 1929, and that those politicians greatly aggravated their countries' misery by trying to go it alone.

Third, recognize that leadership is essential and that it has to come from America. You have heard an intolerable amount of bosh in the past several years about the deep and infallible wisdom of markets. In fact, markets are perfectly capable of nervous breakdowns. You have just witnessed a historic example of it. They need regulation and, in times of trouble, strong guidance. There was very little of that in the months and years after 1929. How about 1987?

The past week's crash is, among other things, an intelligence test. It will show whether the United States, Japan and Western Europe are capable of understanding what has happened and of working together to deal with the consequences. There is nothing inevitable or foreordained about the movement of the economy in the coming months. It will measure the quality of the people who hold power in the world and, above all, in the United States.

— THE WASHINGTON POST

### Alarms Are Wailing

With stock prices down 22 percent in a day and foreign investors racing for the exits, Oct. 19, 1987, ranked by most measures as the worst day in Wall Street's history. But, frightening as it is, the market collapse is the alarm, not the fire. It need not lead to depression or even a major setback in employment and income. But the big economic powers finally have to fight the fire. They must, finally, coordinate a policy for stable growth.

Many investors were bloodied. Speculators who had borrowed heavily to bet on the rising market and were forced to liquidate to meet collateral requirements were hurt most. Millions of others — everyone from retirees with a few hundred shares of GM to conservative investors with a few thousand in mutual funds — suffered from the \$503 billion loss in the value of listed stocks.

Even these stunning losses, though, should have little direct effect on the day-to-day economy. Kansas farmers will be able to grow as much wheat and Ford will be able to make as many station wagons. Consumers may feel a little poorer, and thus less willing to part with their cash, but economists believe that this "wealth effect" is a relatively minor factor in a \$3 trillion economy. So where's the fire? Gigantic budget deficits in the Reagan years have soaked up domestic savings, leaving America dependent on Japan and Europe for the capital to keep the economy moving. Foreigners have been happy to supply U.S. needs, trading stocks and bonds and real estate in return for cash. But nothing guarantees the continuing flow of foreign cash. Indeed, as Monday demonstrates, nothing prevents a sudden reversal, with foreigners scrambling to exchange dollars for yen or marks.

If foreign investors remain wary of U.S. securities because they fear a fall in markets or the dollar, the Federal Reserve will face a no-win choice. The Fed could make dollar investments more attractive by raising interest rates. Or it could allow the dollar to fall and expand the domestic money supply to replace the foreign capital. The first course would almost certainly cause recession; the second is a sure recipe for inflation.

The only real hope for maintaining both price stability and prosperity is to strike a deal with Tokyo and Bonn. They must reduce domestic interest rates, making dollar investments more attractive and increasing the demand for imports without squeezing U.S. credit. In return, the United States must sharply cut the budget deficit, reducing future dependence on foreign capital and increasing confidence in America's currency. And the economic powers need to pledge openly to intervene in foreign exchange markets to prevent a further slide in the dollar.

The White House asserted Monday that the "underlying economy remains sound." With the fire alarm wailing on Wall Street and the country anxious for leadership, it gets an astonishing remark from Herbert Hoover. When will Mr. Reagan start fighting the fire?

— THE NEW YORK TIMES

## Don't Back Away Now

Even an armada of American and allied ships in the Gulf has not deterred Iranian attacks, as the Reagan administration hoped. It would be unwise to assume that Monday's U.S. raid on Iranian oil platforms will end the matter. On the contrary, this well-calibrated response to Iran's missile attack on two tankers in Kuwaiti waters prompts essential questions: What risks is the United States prepared to face in the Gulf, and is it prepared to take leadership?

Iran's strategy is to divide its opponents through fear. A united front led by the United States and centered on the containment of Iran is the proper response.

If, instead, America backs away, there is no telling the consequences. Iran might vanquish Iraq. Chances are that an ascendant Iran would pose even greater challenges to America's considerable interests in the region. Better to run the additional risks now, on two conditions: full support from Gulf and allied states, and a sharing of responsibility between the president and Congress.

Iran has raised the stakes, having threatened and even attacked U.S.-flagged ships and warships. It also forces allies and Arabs to glimpse the consequences of a possible Iraqi defeat. A triumph for Iran might try to dominate the Gulf states and Saudi Arabia, act on its war cry of liberating Jerusalem and destabilize moderate Arab governments.

Hence the United States has recently been receiving considerably greater cooperation from European allies and the states in the region. The choice now is whether to lead this alliance in containing Iran and preventing Iraq's collapse, or to decide that the risks are too high and withdraw.

— THE NEW YORK TIMES



This cartoon appeared in The New York Herald in Paris on Nov. 12, 1929, two weeks after the Wall Street crash of Oct. 29.

## A Lot of Valuable Stock Is Suddenly Less Expensive

By George F. Will

WASHINGTON — It is said that public officials seeking advice are usually just seeking accomplices. However, in times of turmoil they actually want advice. Then there is a need for the likes of Herbert Stein, who has been an observer of and participant in the formulation of economic policy for nearly 50 years.

Mr. Stein was chairman of the Council of Economic Advisers under Presidents Richard Nixon and Gerald Ford. He has two favorite propositions that are particularly germane today. The first is that economists do not know much more than the politicians and others who set economic policy.

These propositions are today grounds for a policy of "Don't just do something, stand there," meaning, let the markets work. Mr. Stein urges a modified form of that policy, allowing the dollar to fall but doing something by undoing some things.

The U.S. government said it will resist the decline of the dollar, and was not believed. It promised international coordination of policies, and was not believed. There is a new chairman of the Federal Reserve Board whose inclinations are not known. We have, Mr. Stein says, an "artificially uncertain situation." Uncertainty breeds anxiety, and hence volatility.

Mr. Stein recommends altering expectations by informing the world that the dollar will be allowed to fall as far as market forces drive it. Such a decisive movement would eliminate the destabilizing expectation that the dollar is going to fall further, which is fueling the flight from U.S. assets.

The only direct way to resist downward pressure on the dollar indefinitely is by raising interest rates. But that would fuel inflation and risk stagnation. True, a declining dollar would make importation pressure (by making imports more expensive), but that should be treated as an exogenous event, something not to be responded to with the anti-inflation medicine of higher interest rates.

We are, Mr. Stein says, in danger of getting into "a kind of Keynesian trap." John Maynard Keynes said that expanding the money supply could not propel the economy out of the Depression because the enlarged supply of dollars would only be held rather than used to buy stocks and bonds, because yields of those instruments were too low. The parallel with

today's situation is this: Increasing the supply of dollars might not drive down interest rates. Rather than remaining in the United States, investors in stocks and bonds, new dollars might flow abroad because of a (for the moment) unlimited demand for non-dollar-denominated assets, such as Deutsche marks or Japanese yen. But no demand for anything is unlimited, absent irrationality. Today's need is for a restoration of reason, beginning with recognition of this: The dramatic change in the stock market is not a reflection of any change in the producing economy. In the economy there is steady noninflationary growth employing more people than ever before.

It sometimes seems that all economic news is bad (or can be so construed) and all news is economic news (in that it has economic consequences). But actually, no news is economic news because all significant economic

## OPINION

## International Cooperation, Now

By Hobart Rowen

WASHINGTON — It was the Reagan revolution come full circle: The excesses of six years, visible in near-\$200-billion-a-year deficits in both the budget and trade, could not go on forever. Under Ronald Reagan, the United States has accumulated as much national debt as in the rest of its history. It consumed and borrowed as if there were no tomorrow.

Americans have made believe that huge debts could be allowed to accumulate in the Third World and somehow failure of those loans could be neatly covered up on the books of the big banks. Never mind the fact that the United States has become the world's biggest debtor. In a pinch, it could always print money to pay it off. Now the joyride is over. But so far the staggering, record stock market

collapse, as it cascaded through the exchanges in New York, London, Tokyo and elsewhere, has been met with kyo and elsewhere, has been met with governmental denial reminiscent of 1929, when tycoon James P. Morgan tried to reassure the world by saying, "My son and I are buying sound common stocks." It didn't work then and it won't work now.

The economy is fundamentally sound, says Treasury Secretary James Baker. And President Reagan, who gives every evidence of being totally out of touch with reality, tells reporters: "I don't know what meaning [the crash] might have. All the business indices are up. There's nothing wrong with the economy."

### Sick From Predigested Market Analysis

IT COULD be that a critical mass of big investors has concluded that a major U.S. recession is now becoming inevitable. The Louvre accord on currencies is visibly crumbling, the dollar is losing its support, and either the Americans accept that imports will cost them a good deal more in dollar terms in future or they will have to suffer the rigors of even higher interest rates. Either way, the economic consequences of lower U.S. import demand will be felt around the world. The puzzle is [why] such a realization dawned so suddenly. The message may be that modern markets are too narrowly obsessed with predigested opinions. They have tremendous technological capacity for gathering global information, but the process of analysis turns out to be clumsy and even alarming.

— The Financial Times (London)

collapse of that belief can cause our lives' works to evaporate.

Although awfully costly, it is probably profoundly good for the nation to be forced to face the fact that the foundations of its arrangements are matters of (quite literally) faith. Faith must be earned, every day, by good habits. Congress, which has been unable to pass appropriation bills and can be manipulated by interest groups, should consider its daily contribution to the loss of confidence.

Out beyond Wall Street there is a country on which Wall Street depends, absolutely. Out there men and women are making things. And out in the larger world there is an enormous pool of money seeking profitable investments. Investors at home and abroad soon will see that in America, in what is still the world's strongest economy and safest haven for money, a lot of stocks are suddenly a lot less expensive than they were a little while ago. Then a bounce back will begin.

Washington Post Writers Group

More than ever, the global economy needs the restorative force of growth.

fighting must be abandoned to assure the defeat of protectionist legislation. More than ever, the global economy needs the restorative force of growth — which would be stifled by the trade barriers that some members of the U.S. Congress are trying to erect. But individuals and businesses in the private sector cannot look to government alone to pull them out of the present mess. For example, consumers in America must exert some self-discipline. What Americans can learn most usefully from Japan and other Asian countries is that working harder and saving more will pay off in the end.

In the next few critical days, investors in the United States, Europe and Japan will be looking for evidence that the recent weakening of the international resolve to cooperate on economic policy can be reversed. Treasury Secretary Baker deserves great credit for having forged a network among finance ministers and central bankers who can work together. That is crucial in an age when global communication is instantaneous and markets are irrevocably intertwined. However, frustrated last week by West Germany's manic fear of inflation (at a time of zero rise in prices), Mr. Baker went public with a threat that America would go its own way in making policy. "He blew it," said an influential Wall Streeteer. "In the midst of market uncertainty, a secretary of the Treasury should avoid anything that could hurt stability."

Mr. Baker, with the help of the West Germans (who have their own complaints about American foot-dragging on the budget deficit issue), is trying to repair the damage. "Can they get the genie back in the bottle?" asks economist Stephen Morris, who has been predicting some of the sorry events we have been experiencing. You should be able to get the answer to that question on Page 1 quite soon.

The Washington Post

## A Summit Puzzle Embarrasses ASEAN

By Michael Leiter

LONDON — As December draws near, the six governments in the Association of Southeast Asian Nations face a difficult decision about whether to go ahead with plans for a summit meeting in Manila. For ASEAN's leaders to meet in a country recently destabilized by a military coup attempt and an upsurge in communist guerrilla activity could not only lead to a political embarrassment but could also threaten their safety. The alternative, however, is to show a lack of confidence in the administration of President Corason Aquino and collectively lose face by shifting the meeting to another ASEAN country.

Since ASEAN's founding in 1967, it has held only two meetings of heads of government: in Bali, Indonesia, in February 1976, and in Kuala Lumpur, Malaysia, in August 1977. It has long been agreed that the third meeting would take place in Manila. Political conditions in the Philippines in the last years of the Ferdinand Marcos regime led to a postponement of a meeting. His fall from power in February 1986 and the accession of Mrs. Aquino gave ASEAN leaders an opportunity to make a show of faith in the association as it enters its third decade. The summit is scheduled for Dec. 14 to 16.

But the political consensus that brought Mrs. Aquino to power clearly has broken down. Her administration seems increasingly trapped between competing forces of left and right. In such circumstances, an

ASEAN meeting could be used as a tool by those who are seeking to remove Mrs. Aquino from office.

Disorder could be orchestrated by the right to discredit the president during the meeting; or the more aggressive forces of the left might see an advantage in a spectacular strike, such as an attempt to kill an ASEAN head of government. A meeting held in a state of siege would not enhance the association's standing. The current indecision does not only involve waiting to see whether Mrs. Aquino can reassert her authority. The other ASEAN members — Brunei, Indonesia, Malaysia, Singapore and Thailand — are reluctant to push for a decision because they fear that such pressure would be interpreted as a vote of no confidence, further undermining Mrs. Aquino's position. She herself may be reluctant to take any initiative. Should she push for a change in venue, it might be seen as an admission that she could not guarantee the security of fellow leaders.

Nonetheless, it probably would be better for ASEAN to out its issues at this stage rather than to give the impression of being forced into a hasty decision at the last minute. The meeting is intended to inaugurate a third decade of constructive regional cooperation. Circumstances may have reduced the occasion to an exercise in limiting political damage.

The writer, back from an extended stay in Southeast Asia, is a lecturer in international relations at the London School of Economics and Political Science. He contributed this column to the International Herald Tribune.

## Missiles at Sea: It Started With a Green Flash Over Port Said

By Abraham Rabinovich

JERUSALEM — A green pulse of light in the Mediterranean 20 years ago today signaled a new naval era, one whose ramifications have been painfully felt by U.S. warships in the current crisis in the Gulf.

The light was seen first by the starboard lookout on the Israeli destroyer Eilat as the light rose from the direction of Port Said, 13 miles (20 kilometers) to the southwest. The destroyer was nearing the end of a routine patrol, four months after the Six Day War. "Green rocket to starboard," shouted the lookout.

On the bridge, Captain Yitzhak Shoshan saw a bright ball of light. As he watched it through his binoculars, it changed course perceptibly and headed toward his ship. Though a cease-fire had been negotiated after the war, Captain Shoshan knew that this was no signal flare. The missile age at sea was beginning and he had less than a minute to try to save his ship and its 200 men.

As the ship's klaxon sounded a raucous alert, Captain Shoshan tried to turn the Eilat so that it presented its narrowest profile to the missile's radar. A machine gun opened up at the object hurtling down upon them. But an instant later the missile, a Soviet-made Styx, exploded in the boiler room at the heart of the ship, just above the water line. The adjacent engine room was destroyed and the ship was left powerless.

As the ship began to list, a lookout sang out again. "Missile to port." The Eilat had swung around to present its other side to the Egyptian boat firing from Port Said. Captain Shoshan watched the missile pass within 60 feet (20 meters) of him as it dove toward the ship's waterline. Twenty feet long and fitted with snubby delta wings, it looked like a small plane. Inside it carried more than 1,000 pounds (450 kilograms) of explosives. The explosion peeled back the deck amidships like a sardine can, leaving the ship's funnel lying across it.

In the darkness that had now

closed in, Captain Shoshan ordered rafts readied for the wounded in case the vessel had to be abandoned. The radios had been knocked out before naval headquarters could be informed of the Eilat's plight.

After two hours, the communications officer managed to piece together a radio from spare parts and raised an Israeli army unit in Sinai. "We are opposite Port Said. We have dead and wounded and are listing badly. We have been hit by missiles."

Captain Shoshan assembled his crew and, using a bullhorn, outlined the likely timetable for a rescue operation. He ordered the wounded lowered onto rafts and told his men to stay together in the water. For orientation, they would swim toward the moon. Glancing at the listing maul, he gave the order: "Abandon ship."

The captain glanced around the deck to ensure that no one was left when the now familiar shout came. "Missile."

High to the west, the bright eye was again seeking them out. The Styx exploded on the Eilat's stern, knocking the captain backward against the starboard rail. He could feel himself being lifted over the rail as the ship tilted. Sliding down its side, his feet hit the stabilizer fin so hard that he broke vertebrae and could not use his legs in the water. Held aloft by his life belt, he pulled himself away from the sinking ship so as not to be sucked down. Looking back, he saw the bow pointing skyward. And then: "Missile."

With two little of the boat left to home on, the fourth missile exploded in the water. Captain Shoshan was hit by a powerful underwater shock that caused him to cry out. The blast proved fatal to many in the water. The rescue went almost exactly as the captain had outlined it to his men — first came planes, dropping flares and rubber boats, then the dark

shapes of torpedo boats picking their way carefully toward the survivors, and finally helicopters to hoist men up with their winches.

Of the 200 men aboard the Eilat, 47 had been killed and more than 100 wounded. (Three days later, on Oct. 24, heavy Israeli shelling devastated major Egyptian oil installations.) But the event was not just a tragedy for those involved. It changed the nature of naval warfare as dramatically as the introduction of naval guns or the appearance of the first ironclads. A small boat, firing from beyond the horizon, had destroyed a ship 10 times its size. It had demonstrated that vessels the size of patrol boats could unleash the punch of a cruiser while staying safely beyond range of their targets' guns.

The sinking of the Eilat caused a major upheaval in naval headquarters around the world, not least in the United States. No navy in the West had operational sea-to-sea missiles nor adequate defenses against the Soviet missiles, the effectiveness of which had been largely discounted. Four years later, the Indian navy would sink several Pakistani vessels using Styx missiles. In the Falklands campaign, the British fleet lost two ships to Exocet missiles fired by the Argentines, even though it had sophisticated electronic equipment designed to stave off such attacks. And now the Gulf has become a shooting gallery for anti-ship missiles, which on May 17 caught the U.S. frigate Stark with its electronic defenses down.

In the 20 years since the Eilat sinking, only one navy has proved able to defend itself against missiles — as it happens, the Israeli navy. Even before the sinking, the Israelis were designing their own missile, missile-boat and anti-missile defenses. When the Yom Kippur war broke out in 1973, those elements were in place. On the first night of the war, an Israeli task force — the first operational missile boats in the West —

met a Syrian force off the Syrian port of Latakia. After sinking a torpedo boat and minesweeper, the Israelis turned toward three Syrian missile boats whose Styxes had twice the range of the Israeli Gabriel missiles.

The Israelis raised their electronic umbrellas and charged. The Syrian missiles were deflected and all three Syrian boats were destroyed. Two nights later, three Egyptian missile boats were sunk off the Nile Delta — the Egyptian scenario repeated itself — the Egyptians getting in the first shots but the missiles being diverted. In all, 54 Styxes were fired at Israeli missile boats during the war, and not one scored a hit. Gabriels sank at least half a dozen enemy warships in what remain the only missile-to-missile sea battles.

Far more attention has been paid

to the Eilat sinking than to the naval battles of the Yom Kippur war, which at first were shrouded in Israeli secrecy and later went unnoticed even in the naval journals.

But if the Eilat's demise foreshadowed a ferocious new weapon, it also foreshadowed a formidable defensive remedy. The Falklands and the Gulf have demonstrated that both the threat and the remedy must be taken more seriously. In the age of the missile, gunboat thinking will no longer do.

Mr. Rabinovich, a feature writer for the Jerusalem Post, is author of *The Boats of Cherbourg: an account of Israel's missile boats to be published next spring*. He contributed this column to the International Herald Tribune.

## 100, 75 AND 50 YEARS AGO

### 1887: Russia Fortifies

PARIS — Russian engineering officers are rapidly completing the system of defensive fortifications of the western frontier planned some years ago. At Warsaw, the eighth of the forts forming the *ceinture* of the defenses of that strategic point has just been finished. Five more forts are still to be constructed within the *rayon* of Warsaw. A very great number of other fortifications calculated to make the Polish frontier of Russia almost impregnable against any advance of Germany or Austria, or even of the two combined, are being pushed forward with the greatest energy.

### 1912: Wilson Leads Poll

NEW YORK — The fourth installment of the Herald's nation-wide canvass of the political situation indicates that Governor Woodrow Wilson is well in the lead for the Presidency, with Theodore Roosevelt second and President W.H. Taft

third. Usually the speech making lasts until the eve of polling, but this time, owing to the attempted assassination of Mr. Roosevelt [on Oct. 16] and the chivalrous attitude of his opponents, there has been a cessation of hostilities. Dr. Wilson concluded his campaign last night [Oct. 19] by addressing an audience at Brooklyn.

### 1937: A Buying Spree

NEW YORK — Following up yesterday's late rally, the stock market bounded upward today [Oct. 20] in a scramble of buying which kept up at breathless pace. The Dow Jones average for industrials rose steadily nearly eight points. PARIS — Financial pundits still unable to account for what has been happening in Wall Street in the last few days. Perhaps the sun spot will help them. If Professor Harlow Stetson, of the Massachusetts Institute of Technology, is right in holding that sun spot changes are reflected almost immediately by the

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## MARKETS IN TURMOIL: Record falls on Asian and European exchanges

### Plunge Continues in Europe But Rally Cuts Some Losses

Compiled by Our Staff From Dispatches

PARIS — Strong selling continued to buffet European stock markets on Tuesday.

Losses were cut after New York stocks began to rally, but the plunge continued later on most markets.

The key index of the London Stock Exchange plunged by a record 12.22 percent, but elsewhere percentage losses were kept to single figures. The Paris Bourse managed a gain, though of less than 1 percent.

#### London

Shares finished drastically lower, setting several new records in the most volatile and active trading day in the history of the exchange.

The Financial Times 100-share index, which was headed toward a drop of 300 points at one stage, lost 250.70 points for the day, closing at 1,801.60.

Tuesday's performance was even worse than Monday's, when the index skidded 249.50 points, or 10.84 percent of its value.

Shares plunged a record amount in the morning, then staged an unprecedented same-day rally in the afternoon, only to plummet again later in the day.

Morning trading was made more convulsive by news that British bank lending in September rose by \$4.4 billion (\$6.06 billion), exceeding market expectations.

Volume was 1.19 billion shares, compared with 1.07 billion shares Monday, and exceeding the previous record of 1.15 billion set June 12.

The midday rally followed a statement by the chairman of the U.S. Federal Reserve, Alan Greenspan, that the Fed is ready to provide liquidity to support the economy and the financial system.

News that two major U.S. banks had cut their prime lending rates also boosted stock prices, many dealers said, and the recovery accelerated when Wall Street soared at its opening.

But many investors saw the rebound as an excuse to take profits, brokers said, and selling continued. Then Wall Street turned around and was back in the red.

Analysts said comments by Sir Nicholas Goodison, chairman of the London Stock Exchange, that there was "no rational reason" for the recent heavy market fall helped to stem the selling wave.

Remarks from West Germany's

finance minister, Gerhard Stoltenberg, that he could not rule out central bank action to support currencies also encouraged investors, dealers said.

#### Paris

French share prices recovered on news of a firmer start to Wall Street trading and a cut in U.S. prime rates.

The CAC index, the main indicator of performance on the Paris Bourse, rose 0.79 percent on Tuesday after plunging 9.7 percent on Monday.

Prime Minister Jacques Chirac appealed to French investors Tuesday not to panic after share prices fell in the morning.

Concerted buying by French state-owned financial institutions helped prop up prices and stem a selling wave by small investors at the bourse opening, banking sources said.

On the fledgling financial futures market, known as MATIF, trading was suspended twice because the recovery in prices was so strong that it breached the limit set for an individual session, even though the limit had been doubled for the day.

#### Frankfurt

Shares on the Frankfurt exchange closed mostly lower, but there was no clear trend among leading stocks, many analysts said.

Some of the most heavily traded shares continued to suffer from Monday's rout, falling 10 percent or more, dealers said.

The Commerzbank index slid 74.70 points, or 4.28 percent, to close at 1,669.40.

On Monday, the index plummeted a record 132.5 points, or 7 percent, to 1,744.10. The previous largest drop was a 98.5-point decline on Jan. 28, 1987.

Daimler-Benz, the car maker, plunged 47 Deutsche marks, to 593 DM, while Deutsche Bank dropped 37 DM to finish at 528 DM.

#### Elsewhere

In Zurich, where prices fell by more than 11 percent on Monday, the stock exchange postponed its opening for half an hour and suspended temporarily the rule that encourages trading in a share if it drops more than 10 percent, an exchange spokesman said.

In Italy, the stock market regulatory body Consob delayed by one hour the opening of the Milan

bourse and nine other stock exchanges after Monday's record falls.

The Milan MIB index finished 38 points lower, or 4.45 percent, at 815, compared with 853 on Monday.

Morgan trading on the Madrid bourse was suspended.

The Madrid general index fell 16.35 points, or 5.4 percent, to close at 286.16, against 302.51 on Monday.

Dutch share prices continued Monday's slide as mainly private investors dumped stock, while institutional players snapped up some bargains, dealers said. The Amsterdam ANP-CBS general fell 22.50 points, or 8.4 percent, to close at 245.50, against 268.00 at Monday's close.

In Stockholm, dealers said the bourse suffered its worst day. "We thought we had been spared the panic which hit Wall Street, Tokyo and London in the past few days," one dealer said, "but it's a free-fall here now."

The Stockholm Allshare index fell 63.40 points, or 7.01 percent, to finish at 840.90. On Monday, the index fell 61.80 points, to 904.30.

(AP, Reuters, UPI)

## U.S. Economic Policy Adrift, Many in Europe Say

The Associated Press

LUXEMBOURG — The sell-off on world stock markets has hardened the view in Western Europe that U.S. economic policy is adrift and has become the root cause of global economic instability, many analysts said Tuesday.

They said it was widely believed in Europe that Monday's stock market slide was triggered in large part by a collapse of confidence by investors that the Reagan administration is capable of correcting the huge U.S. budget and trade deficits.

"The feeling is that there is a real power vacuum in the United States," said Bill Bracey, an economist at Savory Mill Ltd., the London brokerage firm, "that no fundamental corrective action will be taken this side of the next election."

Mr. Bracey and other analysts and officials said that European governments are frustrated by their inability to insulate their economies from the effects of U.S. policy.

They said they are worried that a continued slump in the U.S. stock market could trigger a recession that would spread to Western Europe and the rest of the world.

"There is a certain amount of resentment at this here," Mr. Bracey said.

Jacques Poos, Luxembourg's treasury minister,

said he believed the major industrial powers should convene an emergency meeting to clarify the U.S. role in efforts to correct global imbalances.

"The origin of this crisis is the situation inside the United States," he said. "These huge imbalances are in a country that has the leading currency in the world."

This view was echoed by other officials, in-

**"The feeling is that there is a real power vacuum in the United States."**

Bill Bracey,  
economist at Savory Mill

cluding Sir Nicholas Goodison, chairman of the London Stock Exchange.

In a radio interview, Sir Nicholas said he believed world stock prices would stabilize once investors realize that the problems of the world mainly center on countries other than the United Kingdom, particularly the U.S.A., which, he said, must get its deficits under control.

## Shares Plummet In Asia After Drop In Dow on Monday

By Michael Richardson  
International Herald Tribune

SINGAPORE — Asian stock markets plunged by record amounts in frantic trading Tuesday as investors scrambled to bail out after Wall Street's unprecedented collapse.

Analysts said a combination of fear and forced sales after the Wall Street slide caused share indexes in Japan, Australia, New Zealand, Singapore and Malaysia to post their largest single-day point falls.

In Hong Kong, stock market authorities suspended trading for the week, citing the need to protect investors and allow brokers to sort out earlier trades.

The analysts predicted that unless markets in the United States and Europe steadied soon, the stock market rout in the Asia-Pacific area was likely to continue, clouding otherwise bright prospects for economic growth in many countries.

"We are very much in the hands of New York," said Hugh Peyman, head of South East Asian research for Merrill Lynch Pierce Fennier & Smith in Singapore.

Takahashi Johsen, research director at Mitsubishi Research Institute in Tokyo, said the plunge in the Japanese stock market, the world's largest, had "gone beyond its economic fundamentals."

#### Tokyo

On the Tokyo Stock Exchange, the widely watched Nikkei stock average nosedived a record 3,836.48 points, or 14.9 percent, to close at 21,910.08. Volume was lower than normal. The drop far outstripped the previous record one-day point fall of 831.32 on April 27.

After the market closed, the Tokyo Stock Exchange relaxed restrictions on margin trading in a move calculated to bring back buyers. The change will raise to 50 percent from 30 percent the share of a stock that can be purchased with a loan.

The previous record one-day percentage fall was on March 3, 1953, when the imminent death of the Soviet premier, Josef Stalin, sent prices tumbling 10 percent.

The Nikkei average lost 620.18 points on Monday. Since hitting a high of 26,646.43 one week ago, the index has lost nearly 18 percent of its value, which is estimated at more than \$2.5 trillion.

However, Tokyo bond prices surged as investors concluded that the stock market's collapse precluded the central bank from carrying out a widely rumored increase in its discount rate, now at 2.25 percent.

Bond prices also benefited from a flow of funds out of stocks, and the 10-year benchmark issue jumped about 1.20 points to 96.46 from Monday's finish. The yield dropped about one-fifth of a percentage point to 5.71 percent.

Japan's Finance Ministry asked the four major securities houses in Tokyo to help calm the market, but brokers said the companies made big losses as they bought shares that continued to fall.

By the close of the day's trading, only 753 issues were quoted, 14 percent of the total market. Only seven issues were higher, and 597 registered maximum single-day losses allowed by the market.

Volume was estimated at just 500 million shares, about half the usual level for morning trading alone.

#### Sydney

The Australian share market, as measured by its major stock index, closed a mammoth 24.9 percent lower Tuesday after a day of unprecedented selling.

The All Ordinaries index fell a record 515.6 points to close at 1,549.8.

#### Hong Kong

The closing of the Hong Kong Stock Exchange on Tuesday came a day after frenzied selling led to its largest one-day decline.

The Hang Seng index lost 11 percent of its value on Monday, falling 420.81 points to 3,362.39.

#### Singapore

Frantic selling on the Singapore Stock Exchange on Tuesday sent the Straits Times Industrial Index plunging a record 226 points to 996.82 points, brokers said.

The index had already registered a record single-day drop on Monday of 169.14 points, to 1,223.28.

## French Privatization Strategy Is Jeopardized . . .

By Joseph Fitcher  
International Herald Tribune

PARIS — The stock market crisis in France has jeopardized the conservative government's strategy for industrial modernization, but the decisive political impact depends on whether collapsing French share-prices trigger a recession, politicians and analysts said Tuesday.

"We can weather it," said Jacques Toubon, secretary-general of the neo-Gaullist party led by Prime Minister Jacques Chirac. He added: "What worries me is less the stock market and more the monetary repercussions of the crisis, particularly interest rates."

Asking how much French voters will blame the share-price crisis on Mr. Chirac's policies, sources contended that the government could blunt criticism by stressing that all industrial nations had been engulfed by the crisis, not just France.

Blame for triggering it is being deflected to other nations, mainly the United States and West Germany, where the central bank has resisted pressure to lower interest rates and reinforce economic confidence.

A former French minister of finance, Jacques Delors, head of the Commission of the European Community in Brussels, said on French radio that James A. Baker Jr., the U.S. secretary of the Treasury, "was a fireman who is having the effect of an arsonist."

He was alluding to comments by Mr. Baker over the weekend that upset the markets. The markets interpreted his remarks as talking

down the dollar and publicizing friction between the United States and West Germany.

"It's clearly not the fault of French policy; it comes from deficits in the United States," said Jean Francois-Poncet, a conservative senator and former foreign minister.

But Mr. Chirac's prospects in presidential elections next spring seem likely to lose ground to rivals such as President Francois Mitterrand, who is a likely Socialist candidate for re-election, and Raymond Barre, who succeeded Mr. Chirac as prime minister in 1976 and acquired a reputation for economic sagacity.

Conservatives, including Mr. Chirac, and Socialist leaders have pursued policies in recent years of encouraging the development of a stock market fully integrated into the world financial system.

But the stock market panic has hit France at a sensitive juncture of economic modernization. A main-spring of the Chirac government's ideology is "privatization," the process of putting state-owned industries, banks, media and insurance companies into private ownership via the stock market.

Now the scope and pace of the government plans seems bound to suffer. Most of France's 10 privatized companies were still trading above their original cost to the public, but large paper profits had been wiped out.

"Financially and psychologically, this is bound to dampen demand for new issues," according to Paul Horne, a Paris-based interna-



Jacques Chirac

tional economist for Smith Barney, the brokers.

The capacity of French and foreign investors to buy large companies has been the subject of a technical debate among politicians and economists in France, and Socialist members of parliament are expected to accuse the government of moving too fast with privatization.

The crash has hurt the government's credibility with special force because French people are traditionally uneasy about channeling their savings into the stock market.

Leftist politicians are finding fault with the government on technical and moral grounds. They are accusing the government of overestimating the market's ability to digest rapid, ambitious privatization and of lulling voters with promises of prosperity by speculation.

But the major French opposition groups appear badly placed to make direct political capital out of the woes of the Paris Bourse.

The bull market, which rose fivefold between 1982 and last summer, took off under the Socialists, in power in France from 1981 until they lost their parliamentary majority last year.

The Socialists started the campaign to liberalize the securities industry in France, and they frequently cited the stock market's performance as evidence of their successful management and proof of their conversion to free-market principles.

In France, prominent politicians have called for immediate international crisis consultations, a polite formula for obtaining help from the United States, West Germany and Japan to offset the effects of the crash.

French economic activity could be stimulated by a cut in interest rates, currently Europe's highest at 12 percent. But the French government cannot risk making credit cheaper unless interest rates come down first in West Germany.

"The key is in Bonn and Frankfurt," said Mr. Horne of Smith Barney. "If France grinds to an economic slowdown, the political fallout for the government will be severe."

## . . . And Britons See Ebbing of 'Popular Capitalism'

By Reginald Dale  
International Herald Tribune

LONDON — Many economic analysts said Tuesday they believed that the government's policy of "popular capitalism" through wider share ownership had suffered a serious setback in the wake of record stock declines in London.

More widely, they fear that the international consequences of the crisis could pose problems for the rapidly expanding British economy.

Immediate attention focused on the government's £7.2-billion (\$12-billion) offer of shares in British Petroleum Co., with an Oct. 28 closing date, regarded as the linchpin of the privatization policy.

Nigel Lawson, the chancellor of the exchequer, said Monday that the sale, the biggest in British financial history, would go ahead, because it had already been underwritten.

He appealed in an interview with the British Broadcasting Corp. to the millions of small investors who have entered the market in recent years, with the strong encouragement of the Conservative government, to "keep calm" and "stay on the roller coaster."

But market analysts said they expected that the small private investors whom the government wants to attract would be extremely nervous about taking up the offer and that the dozens of underwriting financial institutions would have to buy most of the shares and bear any losses.

BP shares on Tuesday closed 50 pence below the official 330-pence offer price.

"Are people prepared to buy shares when they see that they go down as well as up?" asked Christopher Johnson, chief economic adviser to Lloyds Bank. "I would have thought not."

"This will be the real test of the government's privatization policies," he added, noting that previous government share sales had all benefited from a bull market.

Andrew Britton, director of the National Institute of Economic and Social Affairs, a leading independent forecasting organization, said that people had previously thought that buying government shares was "a sure way of making money."

The events of the past two days "will have corrected that illusion," he said.

Numerous analysts predicted that the government's plans to privatize the water and electricity industries in the months ahead would now be much more difficult.

Nevertheless, the political consequences for Prime Minister Margaret Thatcher might not be too serious, Mr. Britton predicted.

Mrs. Thatcher has been trying to widen support for her government and its economic policies by extending share ownership more widely throughout the general population.

Mr. Britton, however, said that most of those who were going to buy government shares had probably already done so in earlier privatiza-

tions, such as those of the gas and telephone industries.

More generally, however, analysts were concerned that Britain was particularly exposed to the risk of a downturn in the U.S. and world economies that could be precipitated by the latest financial upheavals.

Mr. Lawson insisted that "the only way in which the American economy would go into recession is if it actually talks itself into recession."

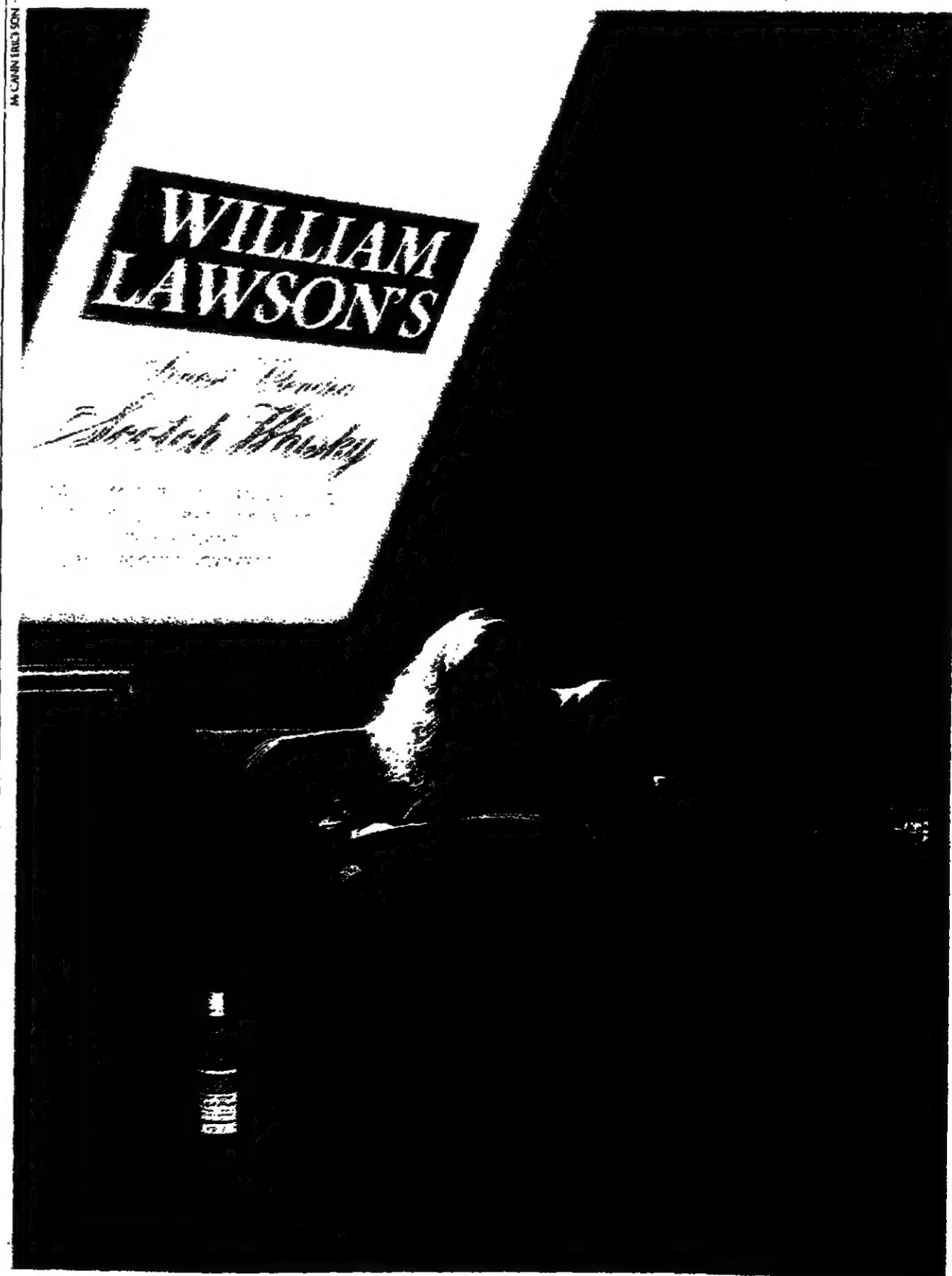
He said he saw no fundamental reasons why the U.S. economy should suffer a recession, "and indeed the possibility of higher interest rates would certainly in my judgment not lead the American economy into recession," he said.

Some private analysts said, however, that the international stock markets were a leading indicator of the economic cycle and that they were signaling a worldwide downturn, particularly in the United States, where growth might fall to 1.5 percent next year.

British analysts agreed that Washington would have to increase taxes and probably accept a further moderate fall in the dollar in the months ahead.

A tax increase would help cut the budget deficit and reduce the trade deficit by dampening the economy, they argued.

Slower U.S. growth would be particularly unwelcome for Britain at a time when it is risking balance-of-payments difficulties by expanding faster than its main trading partners.



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سكوتلاندا، لاس



AMEX Stock Index			
High	Low	Close	Chg
255.75	250.87	252.14	+0.27

[illegible]

## (Continued from Page 1)

"It was a reasonably scary day," Mr. Shopkorn said. "At one point the exchange closed down a whole lot of big stocks because there were sellers and no buyers. There was no one to

[illegible]

Fears over unstable international monetary policy, rising interest rates and inflation triggered aggressive selling two weeks ago. The Dow dropped 235.48 points last week, or 9.5 percent, after slumping 158.78 points the week before.

[illegible][illegible][illegible][illegible]

1992	Alaska	1.66	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0	90.0	92.0	94.0	96.0	98.0	100.0	102.0	104.0	106.0	108.0	110.0	112.0	114.0	116.0	118.0	120.0	122.0	124.0	126.0	128.0	130.0	132.0	134.0	136.0	138.0	140.0	142.0	144.0	146.0	148.0	150.0	152.0	154.0	156.0	158.0	160.0	162.0	164.0	166.0	168.0	170.0	172.0	174.0	176.0	178.0	180.0	182.0	184.0	186.0	188.0	190.0	192.0	194.0	196.0	198.0	200.0	202.0	204.0	206.0	208.0	210.0	212.0	214.0	216.0	218.0	220.0	222.0	224.0	226.0	228.0	230.0	232.0	234.0	236.0	238.0	240.0	242.0	244.0	246.0	248.0	250.0	252.0	254.0	256.0	258.0	260.0	262.0	264.0	266.0	268.0	270.0	272.0	274.0	276.0	278.0	280.0	282.0	284.0	286.0	288.0	290.0	292.0	294.0	296.0	298.0	300.0	302.0	304.0	306.0	308.0	310.0	312.0	314.0	316.0	318.0	320.0	322.0	324.0	326.0	328.0	330.0	332.0	334.0	336.0	338.0	340.0	342.0	344.0	346.0	348.0	350.0	352.0	354.0	356.0	358.0	360.0	362.0	364.0	366.0	368.0	370.0	372.0	374.0	376.0	378.0	380.0	382.0	384.0	386.0	388.0	390.0	392.0	394.0	396.0	398.0	400.0	402.0	404.0	406.0	408.0	410.0	412.0	414.0	416.0	418.0	420.0	422.0	424.0	426.0	428.0	430.0	432.0	434.0	436.0	438.0	440.0	442.0	444.0	446.0	448.0	450.0	452.0	454.0	456.0	458.0	460.0	462.0	464.0	466.0	468.0	470.0	472.0	474.0	476.0	478.0	480.0	482.0	484.0	486.0	488.0	490.0	492.0	494.0	496.0	498.0	500.0	502.0	504.0	506.0	508.0	510.0	512.0	514.0	516.0	518.0	520.0	522.0	524.0	526.0	528.0	530.0	532.0	534.0	536.0	538.0	540.0	542.0	544.0	546.0	548.0	550.0	552.0	554.0	556.0	558.0	560.0	562.0	564.0	566.0	568.0	570.0	572.0	574.0	576.0	578.0	580.0	582.0	584.0	586.0	588.0	590.0	592.0	594.0	596.0	598.0	600.0	602.0	604.0	606.0	608.0	610.0	612.0	614.0	616.0	618.0	620.0	622.0	624.0	626.0	628.0	630.0	632.0	634.0	636.0	638.0	640.0	642.0	644.0	646.0	648.0	650.0	652.0	654.0	656.0	658.0	660.0	662.0	664.0	666.0	668.0	670.0	672.0	674.0	676.0	678.0	680.0	682.0	684.0	686.0	688.0	690.0	692.0	694.0	696.0	698.0	700.0	702.0	704.0	706.0	708.0	710.0	712.0	714.0	716.0	718.0	720.0	722.0	724.0	726.0	728.0	730.0	732.0	734.0	736.0	738.0	740.0	742.0	744.0	746.0	748.0	750.0	752.0	754.0	756.0	758.0	760.0	762.0	764.0	766.0	768.0	770.0	772.0	774.0	776.0	778.0	780.0	782.0	784.0	786.0	788.0	790.0	792.0	794.0	796.0	798.0	800.0	802.0	804.0	806.0	808.0	810.0	812.0	814.0	816.0	818.0	820.0	822.0	824.0	826.0	828.0	830.0	832.0	834.0	836.0	838.0	840.0	842.0	844.0	846.0	848.0	850.0	852.0	854.0	856.0	858.0	860.0	862.0	864.0	866.0	868.0	870.0	872.0	874.0	876.0	878.0	880.0	882.0	884.0	886.0	888.0	890.0	892.0	894.0	896.0	898.0	900.0	902.0	904.0	906.0	908.0	910.0	912.0	914.0	916.0	918.0	920.0	922.0	924.0	926.0	928.0	930.0	932.0	934.0	936.0	938.0	940.0	942.0	944.0	946.0	948.0	950.0	952.0	954.0	956.0	958.0	960.0	962.0	964.0	966.0	968.0	970.0	972.0	974.0	976.0	978.0	980.0	982.0	984.0	986.0	988.0	990.0	992.0	994.0	996.0	998.0	1000.0	1002.0	1004.0	1006.0	1008.0	1010.0	1012.0	1014.0	1016.0	1018.0	1020.0	1022.0	1024.0	1026.0	1028.0	1030.0	1032.0	1034.0	1036.0	1038.0	1040.0	1042.0	1044.0	1046.0	1048.0	1050.0	1052.0	1054.0	1056.0	1058.0	1060.0	1062.0	1064.0	1066.0	1068.0	1070.0	1072.0	1074.0	1076.0	1078.0	1080.0	1082.0	1084.0	1086.0	1088.0	1090.0	1092.0	1094.0	1096.0	1098.0	1100.0	1102.0	1104.0	1106.0	1108.0	1110.0	1112.0	1114.0	1116.0	1118.0	1120.0	1122.0	1124.0	1126.0	1128.0	1130.0	1132.0	1134.0	1136.0	1138.0	1140.0	1142.0	1144.0	1146.0	1148.0	1150.0	1152.0	1154.0	1156.0	1158.0	1160.0	1162.0	1164.0	1166.0	1168.0	1170.0	1172.0	1174.0	1176.0	1178.0	1180.0	1182.0	1184.0	1186.0	1188.0	1190.0	1192.0	1194.0	1196.0	1198.0	1200.0	1202.0	1204.0	1206.0	1208.0	1210.0	1212.0	1214.0	1216.0	1218.0	1220.0	1222.0	1224.0	1226.0	1228.0	1230.0	1232.0	1234.0	1236.0	1238.0	1240.0	1242.0	1244.0	1246.0	1248.0	1250.0	1252.0	1254.0	1256.0	1258.0	1260.0	1262.0	1264.0	1266.0	1268.0	1270.0	1272.0	1274.0	1276.0	1278.0	1280.0	1282.0	1284.0	1286.0	1288.0	1290.0	1292.0	1294.0	1296.0	1298.0	1300.0	1302.0	1304.0	1306.0	1308.0	1310.0	1312.0	1314.0	1316.0	1318.0	1320.0	1322.0	1324.0	1326.0	1328.0	1330.0	1332.0	1334.0	1336.0	1338.0	1340.0	1342.0	1344.0	1346.0	1348.0	1350.0	1352.0	1354.0	1356.0	1358.0	1360.0	1362.0	1364.0	1366.0	1368.0	1370.0	1372.0	1374.0	1376.0	1378.0	1380.0	1382.0	1384.0	1386.0	1388.0	1390.0	1392.0	1394.0	1396.0	1398.0	1400.0	1402.0	1404.0	1406.0	1408.0	1410.0	1412.0	1414.0	1416.0	1418.0	1420.0	1422.0	1424.0	1426.0	1428.0	1430.0	1432.0	1434.0	1436.0	1438.0	1440.0	1442.0	1444.0	1446.0	1448.0	1450.0	1452.0	1454.0	1456.0	1458.0	1460.0	1462.0	1464.0	1466.0	1468.0	1470.0	1472.0	1474.0	1476.0	1478.0	1480.0	1482.0	1484.0	1486.0	1488.0	1490.0	1492.0	1494.0	1496.0	1498.0	1500.0	1502.0	1504.0	1506.0	1508.0	1510.0	1512.0	1514.0	1516.0	1518.0	1520.0	1522.0	1524.0	1526.0	1528.0	1530.0	1532.0	1534.0	1536.0	1538.0	1540.0	1542.0	1544.0	1546.0	1548.0	1550.0	1552.0	1554.0	1556.0	1558.0	1560.0	1562.0	1564.0	1566.0	1568.0	1570.0	1572.0	1574.0	1576.0	1578.0	1580.0	1582.0	1584.0	1586.0	1588.0	1590.0	1592.0	1594.0	1596.0	1598.0	1600.0	1602.0	1604.0	1606.0	1608.0	1610.0	1612.0	1614.0	1616.0	1618.0	1620.0	1622.0	1624.0	1626.0	1628.0	1630.0	1632.0	1634.0	1636.0	1638.0	1640.0	1642.0	1644.0	1646.0	1648.0	1650.0	1652.0	1654.0	1656.0	1658.0	1660.0	1662.0	1664.0	1666.0	1668.0	1670.0	1672.0	1674.0	1676.0	1678.0	1680.0	1682.0	1684.0	1686.0	1688.0	1690.0	1692.0	1694.0	1696.0	1698.0	1700.0	1702.0	1704.0	1706.0	1708.0	1710.0	1712.0	1714.0	1716.0	1718.0	1720.0	1722.0	1724.0	1726.0	1728.0	1730.0	1732.0	1734.0	1736.0	1738.0	1740.0	1742.0	1744.0	1746.0	1748.0	1750.0	1752.0	1754.0	1756.0	1758.0	1760.0	1762.0	1764.0	1766.0	1768.0	1770.0	1772.0	1774.0	1776.0	1778.0	1780.0	1782.0	1784.0	1786.0	1788.0	1790.0	1792.0	1794.0	1796.0	1798.0	1800.0	1802.0	1804.0	1806.0	1808.0	1810.0	1812.0	1814.0	1816.0	1818.0	1820.0	1822.0	1824.0	1826.0	1828.0	1830.0	1832.0	1834.0	1836.0	1838.0	1840.0	1842.0	1844.0	1846.0	1848.0	1850.0	1852.0	1854.0	1856.0	1858.0	1860.0	1862.0	1864.0	1866.0	1868.0	1870.0	1872.0	1874.0	1876.0	1878.0	1880.0	1882.0	1884.0	1886.0	1888.0	1890.0	1892.0	1894.0	1896.0	1898.0	1900.0	1902.0	1904.0	1906.0	1908.0	1910.0	1912.0	1914.0	1916.0	1918.0	1920.0	1922.0	1924.0	1926.0	1928.0	1930.0	1932.0	1934.0	1936.0	1938.0	1940.0	1942.0	1944.0	1946.0	1948.0	1950.0	1952.0	1954.0	1956.0	1958.0	1960.0	1962.0	1964.0	1966.0	1968.0	1970.0	1972.0	1974.0	1976.0	1978.0	1980.0	1982.0	1984.0	1986.0	1988.0	1990.0	1992.0	1994.0	1996.0	1998.0	2000.0	2002.0	2004.0	2006.0	2008.0	2010.0	2012.0	2014.0	2016.0	2018.0	2020.0	2022.0	2024.0	2026.0	2028.0	2030.0	2032.0	2034.0	2036.0	2038.0	2040.0	2042.0	2044.0	2046.0	2048.0	2050.0	2052.0	2054.0	2056.0	2058.0	2060.0	2062.0	2064.0	2066.0	2068.0	2070.0	2072.0	2074.0	2076.0	2078.0	2080.0	2082.0	2084.0	2086.0	2088.0	2090.0	2092.0	2094.0	2096.0	2098.0	2100.0	2102.0	2104.0	2106.0	2108.0	2110.0	2112.0	2114.0	2116.0	2118.0	2120.0	2122.0	2124.0	2126.0	2128.0	2130.0	2132.0	2134.0	2136.0	2138.0	2140.0	2142.0	2144.0	2146.0	2148.0	2150.0	2152.0	2154.0	2156.0	2158.0	2160.0	2162.0	2164.0	2166.0	2168.0	2170.0	2172.0	2174.0	2176.0	2178.0	2180.0	2182.0	2184.0	2186.0	2188.0	2190.0	2192.0	2194.0	2196.0	2198.0	2200.0	2202.0	2204.0	2206.0	2208.0	2210.0	2212.0	2214.0	2216.0	2218.0	2220.0	2222.0	2224.0	2226.0	2228.0	2230.0	2232.0	2234.0	2236.0	2238.0	2240.0	2242.0	2244.0	2246.0	2248.0	2250.0	2252.0	2254.0	2256.0	2258.0	2260.0	2262.0	2264.0	2266.0	2268.0	2270.0	2272.0	2274.0	2276.0	2278.0	2280.0	2282.0	2284.0	2286.0	2288.0	2290.0	2292.0	2294.0	2296.0	2298.0	2300.0	2302.0	2304.0	2306.0	2308.0	2310.0	2312.0	2314.0	2316.0	2318.0	2320.0	2322.0	2324.0	2326.0	2328.0	2330.0	2332.0	2334.0	2336.0	2338.0	2340.0	2342.0	2344.0	2346.0	2348.0	2350.0</
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# Telecommunications

## IN THIS REPORT

### ISDN Unwanted? II

In theory, no one questions the value of an integrated, worldwide, all-purpose telecommunications network, but the reality is a good deal more prosaic.

### Brazil Retrenches III

After making great strides in upgrading its telecommunications system, Brazil is trying to prevent a slide backwards to a third-rate status.

### Telemail IV

The multiplicity of "languages" is preventing telemail services from expanding across national frontiers.

### Teleports Spread V

Teleports, which were first developed in the United States to provide premium digital services without going through the local telephone companies, are catching on in Europe and Asia.

### Cellular Phones VI

Scandinavian countries are still the pioneers in expanding cellular phone market.

### Boom for Cable VII

The cable television industry in the United States is reportedly "basking in investor euphoria."



### Super Spy Satellite VIII

France's new space photo satellite, SPOT, through its technological advances, is bringing a new dimension to global espionage.

### Cable Systems VIII

Alternative technologies, such as backyard satellite dishes and "wireless cable" systems, have met with little success in their efforts to secure a foothold in the U.S. video marketplace.

## Telephony Bursts out Of the Mold

By Eli M. Noam

**N**EW YORK — Today's policy changes in telecommunications are part of a broad transition in the public network — a system that dates back to the emergence of postal monopolies in the 16th century.

That system was based on a centralized monopoly that enjoyed broad interest group support from what may be called the postal-industrial complex of equipment companies, the rural population labor unions and state bureaucracy. The network was universal in reach, price-controlled as a necessity, and redistributive in charges. As a public service, telephony was outside the mechanism of the market, even in otherwise free-economy countries.

But despite its popularity, the traditional model of the public network has not escaped the multiple forces that have undercut its stability. Technology is one of them, but one

### COMMENTARY

should not exaggerate its contributions. More significant was the emergence of the information-based service economy as a mainstay of developed countries.

Electronic information transmission became of ever-increasing importance to the new services sector — and a major expense item. Price, flexibility, security and reliability became variables requiring organized attention by a new breed of experts outside the PTTs.

This led, in time, to new constellations. A new alliance emerged, consisting of large users, including international firms, together with the most advanced part of the equipment industry. In consequence, we are merely at the beginning of what will be a lengthy process of change. The centrifugal forces are encouraging the evolution of a new network model of telecommunications that is characterized by a great deal of openness and resembling conceptually a matrix rather than the traditional star. Here are some of its main characteristics.

The future open network system will be one of great institutional, technical and legal complexity. It will consist of an untidy patchwork of hundreds of sub-networks serving different geographical regions, customer classes, and service types with no neat classification or compartmentalization possible. The U.S. experience demonstrates the instability of structural regulation that tends to compartmentalize the industry. Hence the future network environment will have carriers engaged in many functions, though there will be no shortage of official attempts to ensure order.

The network becomes a composite of numerous separate planning decisions. This notion is so alien to the engineering world view of telecommunications traditionalists that it strikes them as bizarre. The old perspective was that of the chain of command, long-range planning and integration. To leave this system to the vagaries of hundreds of uncoordinated and selfish actors seems to invite disaster.

Can it work? This is not the right question. Perhaps a better way to frame the issue is: Can there be a stable alternative in economics that otherwise favor a market mechanism and that want to stay on the leading edge of technology and applications?

Telecommunications is in the process of becoming.

Continued on page III



## U.S. Agencies Study Effects Of New Regulatory Climate

The seven regional Bell companies want to expand.

**W**ASHINGTON — This year could be a watershed in telecommunications policy in the United States. It is the year in which the breakup of American Telephone & Telegraph Co. got its first close examination. It is also the year in which the regulatory bonds on local monopoly telephone companies and on AT&T began to be loosened.

Federal and state regulators are replacing the 50-year-old methods they had been using to determine how much money those companies should earn. They also are rethinking how those companies should be structured to provide the most protection for rate payers, while providing the most regulatory flexibility for the companies.

When AT&T was broken up in 1984, U.S. District Judge Harold H. Greene, who presided over its divestiture, ordered three basic prohibitions for the then-newly created regional holding companies (RHCs), or Baby Bells. They could not provide long-distance service across local calling zones; they could not manufacture equipment and they could not provide information services, such as medical monitoring or data bases.

He also said that the companies would need a court waiver to enter into any other type of business. And he ordered the Department of Justice to submit a report three years after divestiture, evaluating whether the restrictions should be lifted in whole or in part.

This year the seven regional Bell companies, under the provisions for automatic review of the settlement, have been trying to persuade Judge Greene to allow them to expand by providing long-distance service. They argue that the limits imposed on them under the divestiture settlement are unnecessarily confining and that consumers are being denied the benefits of additional competition and many new products made possible by technological advances.

On Sept. 10, however, Judge Greene, issued an order finding that the long-distance and manufacturing restrictions should stay in place. He left open the possibility of Minnetonka-like networks developing in the United States by permitting the regional companies to provide gateway services, allowing users to enter a general menu to be directed to specific information services but not content or messaging, for vendors of information services. He also abolished the need for waivers for non-telecommunications businesses.

Earlier, Peter Huber, a consultant for the Justice Department, had published a report called "The Geographic Network," in which he had concluded that the telecommunications system had changed radically because there was so much intelligence in customer-based switching devices.

He recommended that the restrictions be lifted. But he also found that more than 99 percent of the telecommunications traffic still passed through local telephone company switches, a fact that Judge Greene would use to justify his own decision as well.

Meanwhile, the Justice Department, which had first recommended that the regional companies be able to offer long-distance service outside of their service areas, reversed itself and recommended that the restriction be kept, with the possibility of lifting it on a case-by-case basis. The Justice Department also did not enforce the ban on manufacturing as strictly as some manufacturers

Continued on page V

## Business

## Europeans Bid For Bigger Slice Of U.S. Market

By Arthur Brodsky

**W**ASHINGTON — Earlier this year, when the Federal Communications Commission had sparked a debate over U.S. trade policy while the French government was deciding whether to sell its national telephone switching system to American Telephone & Telegraph, Ericsson or Siemens, there was a brief story making the rounds in Washington.

AT&T, it was said, had the FCC Chairman Mark S. Fowler's heart. But Siemens had President Ronald Reagan's ear, literally. He wears two hearing aids manufactured by the German multinational giant.

Three years ago, none of the major European telecommunications manufacturers had any presence in the big and lucrative U.S. market. Now, through rapid expansion and big spending, they have become an integral part of it although they still lag far behind AT&T and Canada's Northern Telecom.

Their equipment is found not only performing the mundane switching tasks done in central offices, but also on the cutting edge of U.S. technology.

Whether in tests for Integral Services Digital Network (ISDN), fiber optics, packet switching or cellular radio, Siemens and Ericsson are there. And Stromberg-Carlson, now owned by Plessey of Britain, is also making a strong bid for a larger share of the U.S. market. To some degree, they have also injected themselves into U.S. policy debates, before both the Federal Communications Commission and Congress.

The largest equipment buyers, the seven divested regional holding companies, were eager to look to new telecommunications suppliers. They had AT&T and Northern Telecom, but they also wanted a third supplier to avoid a cartelization of the marketplace. It is still not clear who that third supplier will be, and once the market shakes out, it may vary from regional company to regional company.

Apart from the central office switch market, European suppliers are also making their presence felt in the large PBX market, particularly in universities and state governments.

Of the major European suppliers, Siemens has the highest profile. It scored a major coup by supplying packet switches for Bell Atlantic, Nynex, Ameritech and U.S. West. To help market the packet networks, and its switch, Siemens came up with a mobile demonstration display that has a variety of terminals and can demonstrate automatic bank teller transactions, credit card verification, electronic mail and other capabilities.

The packet switching sales are important not only in their own right but because they are seen as the forerunner of full-blown ISDN services. In another context, Bell Atlantic and the Bell Communications Research (Bellcore) research consortium owned by the regional holding companies, are conducting a nine-month test of Siemens' digital EWSD central switch in an ISDN trial that will include a test to determine if the Siemens product can be connected to existing analog AT&T switches.

Similarly, Southwestern Bell is ISDN-testing the Siemens switch in its Advanced Technology Lab in St. Louis, along with switches from other manufacturers, including Ericsson.

Siemens apparently intends to maintain a strong U.S. presence. Altogether the Siemens companies employ more than 24,000 U.S. citizens, have \$1.3 billion invested in the United States and \$2.2 billion in revenue. Siemens Communications alone employs more than 6,200. President Herbert Asmussen has said that his part of the company is a "net exporter," and thus a positive force in helping to reduce the U.S. trade deficit.

To gear up for a big rush at the U.S. market, Siemens is converting part of its U.S. factory capacity into manufacturing space for the EWSD switch. The factories, in New Jersey and New York, will also continue to produce packet switching equipment. At the Boca Raton, Florida, headquarters of Siemens, the company has dedicated a new research center exclusively for the EWSD. It will employ more than 500 engineers.

As if to underscore its plans to stay in the United States, Siemens spent \$165 million early this year to buy 100 percent control of Tel Plus Communications, the largest business telephone equipment reseller in the United States. Before the deal, Siemens had held 35 percent of the Boca Raton-based firm. Siemens said it made the deal because it wanted direct control over its national marketing, sales and service

Continued on page IV

## New Wings For European Telecommunications

When Eutelsat needed new multimission satellites, it chose Aerospatiale Spacebus 100 technology.\*

These new birds will be able to direct 16 transponders to desired coverage zones after a simple command from the ground.

Flexibility like this—provided by new reconfigurable multifield dual-grid antennas—will allow Eutelsat to keep up with the rapidly evolving needs of Europe's communications markets.

Aerospatiale is proud to have been designated prime contractor for the next generation of Eutelsats, the largest contract for communications satellites ever awarded to European industry.

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## A Scarcity of Funds

## Brazil Struggling to Stay on Hold

By Mac Margolis

**S**AO PAULO — It's more than 2,000 miles from this megapolis to São Gabriel da Cachoeira, a sleepy Amazon jungle town near the Venezuelan border. To get there, one can take a five-day boat ride up the Rio Negro or, when it's not raining too hard, a twin-engine prop plane that leaves three times a week from Manaus. No highway goes that far and until last month the telephone never rang there.

But on Oct. 1, President José Sarney dialed São Gabriel's mayor to say hello and to inaugurate the ten thousandth Brazilian town to be plugged in to the country's expansive telecommunications system.

Mr. Sarney's call was symbolic of an extraordinary development drive that in just four decades has taken this country's sluggish, backward communications system and put it on a par with those of the most advanced countries.

He made the call from a new \$26 million communications station in São Paulo state that is designed to boost the number of international telephone calls by 50 percent. This station, Brazil's 27th, is the latest monument in a campaign that has connected all Brazilian cities and towns to a system of cables, microwave ground towers and satellites.

However, even though distant São Gabriel is plugged into long distance cables, only a handful of its 24,000 residents have telephones. The telephone industry is so stopped up with back orders that customers in the largest cities, let alone those in the hinterlands, must wait up to two years for a telephone line.

As Mr. Sarney declared, after talking to São Gabriel, the stakes

Two million Brazilians want to buy telephones but cannot because the system cannot expand fast enough.

are high. "No nation will be truly free and independent, as the 21st century dawns, without mastering technology," he said.

Telecommunications got a late start in Brazil, considering that the country got its first telephone in 1877, a present from Alexander Graham Bell. It took another quarter century to string thousands of miles of telegraph lines over the country, from the Atlantic coast to the Amazon jungle.

Then in the mid-1950s, President Juscelino Kubitschek vowed to move Brazil "50 years in five." During that campaign, he modernized just about everything, except communications. The futuristic capital of Brasília was built, steel industries were laid down, highways built and the sparsely inhabited backlands settled.

It was not until 1962, under a system created by President João Goulart, that the telephone system began to advance. Mr. Goulart lasted only two years before he was overthrown by the military as a "leftist," but his telephone system survived.

"The one thing the military preserved was Goulart's communications plan," said Gilberto Garbi, a former Telebras president and now director of NEE do Brasil, the affiliate of the Japanese telecommunications company.

Mr. Goulart had created a self-sustaining administration by which the National Telephone Fund collected 30 percent of all telephone bills for financing the expanding telephone network.

In 1972, the military government refined the system, creating a telephone company for each state and Embratel, a holding company, to control investments.

The military set about expanding the telephone network, dotting the landscape with microwave towers, laying three submarine cables to Europe and the United

States and buying into the Intelsat system for trans-oceanic calls. The government built a space research center and, in 1985, launched Brasilsat, the first Brazilian communications satellite for long distance calls and relaying television signals.

"The communications network was the most important work the Brazilian military achieved," said Mr. Garbi.

Despite Brazil's staggering debt burden, some advances have continued in the postmilitary years. A second satellite, Brasilsat-2, was launched last year and research is being carried out in São Paulo on improving rockets to launch more satellites and on fiber optics.

The telecommunications system on the ground has expanded as well. While there were only one million telephones up to the mid-1960s, there are now 12 million. From the remotest region of the country, a direct dial call can be made to New York or Tokyo.

But some recent figures already hint at a decline. By one measure, Brazil, with 7.2 million telephone terminals —

there are 1.5 telephones to each terminal — ranks 10th in the world, just behind Spain and Canada. But Brazil places only 37th in telephone "density," or the number of terminals per 100 inhabitants.

And "density is the only true measurement of development," according to Luiz Carlos Bahiana, a former Telebras executive who now heads Equitel, the Brazilian affiliate of the German communications giant, Siemens.

According to Telebras, there are two million Brazilians who want to buy telephones but cannot because the system cannot expand fast enough.

This has spawned a thriving black market, where the lucky ones siphon their telephones at scalpers' prices.

It has also severely taxed existing lines. Brazilians make 2,500 calls per telephone a year, the highest ratio in the world. The heavy traffic has resulted in long waits for a dial tone, crossed lines and calls repeatedly falling on incorrect numbers or being cut off in mid-conversation.

The very excess in demand is, in a way, a good sign. In a country of 139 million people and with a traditional economic growth of 5 percent to 7 percent a year, there is a seemingly limitless telephone market. Telebras has consistently been one of Brazil's most profitable state enterprises.

Yet, with rare exceptions, government investments in the telephone system have been cut back for nearly a decade.

Telebras recently programmed spending \$1 billion a year and the



Operators in the country's telephone exchanges like this one have been unable to keep up with user demands, resulting in long waits for dial tones, crossed lines and calls repeatedly falling on incorrect numbers.

installation of 800,000 telephones. But the return of triple digit inflation and Brasília's ceaseless tinkering with economic plans have frightened private investors, including those in telecommunications. Ironically, perhaps, the recent liberalization of Brazilian politics after two decades of military rule may have aggravated the problem.

"Unfortunately, telecommunications has been politicized. There are increasingly more politicians and ever fewer technicians, and they manage the system according to electoral needs — all the factors that make Latin America poor and miserable," said a senior executive at a private communications firm. Sources in the communications

industry say the problem need not be fatal. A healthy restoration of investments and replacing pork barrel policies with technical criteria would go a long way to help the telephone system.

"The economy demands that telecommunications keep pace with development," said Mr. Garbi.

Meanwhile, in São Gabriel da Cachoeira, as in other towns, the phone may keep ringing, but for the very few.

MAC MARGOLIS is a correspondent for Newsweek based in Rio de Janeiro. He contributes regularly to The Times of London.

## Telephony Bursts Out of the Mold

Continued from page 1

ing transformed from one of the most regulated industries to one of the least regulated. The growing complexity of the system makes it increasingly difficult to fashion consistent rules, and rules are not likely to be enforceable. The subjects of the regulations — streams of electrons and photons, and patterns of signals that constitute information — are elusive in physical or even conceptual terms, and at the same time fast and distance insensitive.

And yet there is a need for regulatory oversight of the rules under which networks and users interrelate in the future; to bridge this tension will be one of the central challenges for regulatory policy.

The traditional public system may be losing its exclusivity, but it is gaining the flexibility of moving into new activities, including equipment manufacturing and computer applications. These new horizons are an attraction to PTTs as they consent to the loss of monopoly; for policy makers, they raise regulatory issues on how to deal, in the transition phase, with the still-substantial economic power of the unchained PTTs.

It will become increasingly difficult to reach or maintain specific agreements on standards as the number of interests and participants multiplies. Instead, standards setters or coalitions will emerge around which other actors will cluster, since incompatible services will not usually be attractive to users. The system may not be fully convergent, and some parallel standards are likely. Fortunately, electronics is flexible; a brisk industry of information and protocol arbitrage from one standard to another will emerge.

Networks must normally be able to interconnect into other networks as a matter of right, even if they are rivals. This principle requires clarification of the charges and quality standards for interconnection, and this is likely to remain a regulatory question for a long time.

While the right of interconnection deals with networks' linkage with each other, the right of access concerns users' ability to reach, if technically possible, any network they choose to, and to join, under natural conditions, user-group networks.

An open network system raises the question whether the obligations of a network operator to serve all interested users, regardless of location, applies to all services, and the answer is likely to be differentiated. For more specialized services, the general obligation will not exist. But for basic service it will continue, and the definition of "basic" is likely to expand. The boundary line is likely to be an ongoing issue of policy debate.

While it is unlikely that the traditional system of internal transfers from one class of users to others can be maintained, this does not spell the end of transfers; though there will be more external and less internal ones. Subsidies are likely to become more narrowly targeted to the poor.

The open system is not efficient in the sense of minimizing resources. There is nothing unusual about this; almost every industry has excess productive capacity. In telecommunications, with its low marginal costs, competition will cause periodic price instability, and future regulation will need to moderate price volatility and at the same time prevent the likely industry efforts at collusion.

Telecommunications operations will transcend the territorial concept and the notion of each country having total territorial control over electronic communications will become archaic. Supranational carriers and mechanisms will eventually evolve.

The two network concepts — centralized and open — are reflected in the present two major initiatives of their respective proponents. ISDN (Integrated Services Digital Network) is an archetype for the centralized network model, while the ONA (Open Network Architecture) concept, at present before the Federal Communications Commission, aims at disaggregating and opening the very core of the network.

Those holding the centralized concept of networks are captivated not just by its technical capabilities, but also by the more political notion of the exclusive super-pipe. ISDN at once reaffirms the view of the network as a centrally planned and exclusive system while providing a powerful and yet ultimately futile defense against centrifugal forces.

The traditional public network was a very appealing concept amid the cold rationality of capitalism. It was a notion of sharing, interconnecting and reaching every member of society. But certainly, the historical origin of the system, rooted as it is in 17th century European absolutism, does not support those who presently view its defense as a progressive act.

In the future, telecommunications will more closely resemble the rest of the economic system and will be less part of the political sphere. It may be much more complex and, in parts, even less efficient than the old system, but it will be a closer reflection of the underlying complexities of society and economy.

ELI M. NOAM is a member of the Public Service Commission of New York. He is completing a two-volume study of the political economy of European telecommunications.



## The new NTT is only two-years old. But it has a history of more than a century!

Two years ago, NTT was transformed from a government monopoly to a private company in a competitive environment. NTT's basic goals, however, remain unchanged. The company's ideal is to allow every person to contact more people and have more access to more information than ever before. The natural result of this commitment to human contact and human knowledge is implementing the most advanced technologies.

To achieve our aims, we have intensified R&D activities. We also welcome equipment from vendors and manufacturers worldwide that

will enhance the scope and quality of our services. And we offer our advanced technologies in telecommunications and data processing to the international community through our subsidiary NTT International.

NTT keeps an open mind. We invite everyone to participate with us in meeting the challenges of truly compatible global information networks for the next century.

For Telecom '87, NTT will exhibit at booth 5.101 a prototype for ISDN network services which conform to CCITT recommended I-series interfaces. NTT plans to begin commercial ISDN service no later than April, 1988.

© NTT



## Electronic Mailboxes

## Europeans Increase U.S. Market Share

Continued from page 1

operation, rather than leaving those jobs to middlemen. The move was also defensive, to help fend off the sales forces of the Bell Operating Companies.

Tel Plus sells PBXs, work stations and other equipment, through 100 sales locations in the United States, to about 50,000 customers.

Competing strongly with Siemens is the American subsidiary of the Swedish firm Ericsson. (Ericsson scored an impressive international triumph this summer when the French government allowed it to purchase the government's national switch manufacturing business, beating out Siemens and APT, the AT&T-Philips alliance.)

Ericsson has only about one-third of the investment that Siemens has in the United States, with assets of about \$320 million. But working from a small base, it has made great strides.

In the central office switch market, Ericsson said it wants to add 100,000 lines of its AXE CO digital CO switch, proposing some joint development projects with the regional companies.

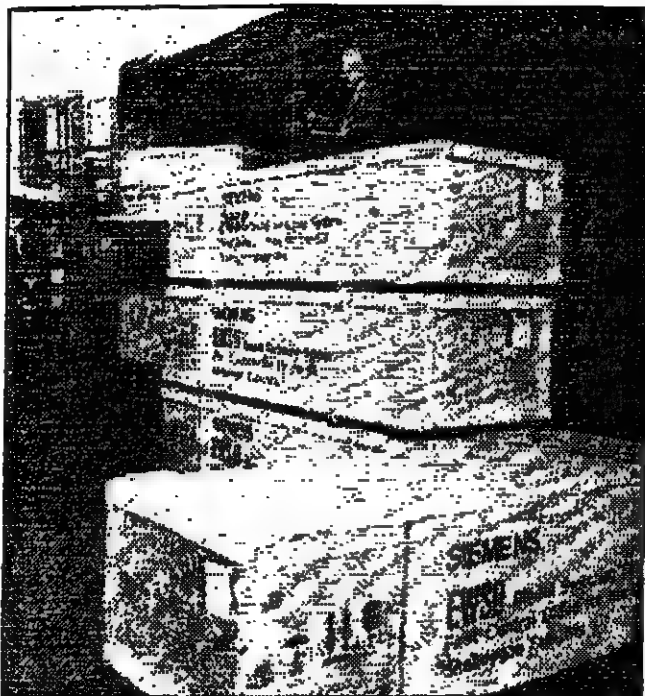
The company's biggest score came in April when it announced that U.S. West would buy 50 AXE switches to be used in rural Idaho. The contract was Ericsson's third with U.S. West, but the others were much smaller.

In addition, Ericsson has signed a contract with BellSouth for two specialized signal transfer point AXE switches to be put into effect early in 1988. Ericsson has also signed with Southwestern Bell to provide service for 15,000 subscribers in Missouri, while agreeing to supply Southwestern's advanced technology lab with switching equipment for testing.

Besides the central office market, Ericsson has been trying to sell PBX equipment as well. The company wants to gain between 5 percent and 10 percent of the American market, expanding from its present base of largely university customers. The key product is the MD110 PBX. It was at first designed for customers with between 100 and 400 lines and was later expanded into the MD110-40 which can handle up to 12,000 lines.

The company has a dozen sales offices in the United States to market the PBX and is making some gains. In its traditional market, Ericsson has won an \$8 million contract from San Diego State University and a \$6.1 million contract from Oklahoma State University. Ericsson has also installed the switch in the Arkansas state government network.

Outside of the traditional PBX and CO markets, Ericsson is an active player in the cellular switch market. In addition, Ericsson says that it has captured about 5 percent of the \$300 million U.S. multiplexer market and is aiming for



Siemens is making a strong bid to become a major supplier of equipment in the United States.

10 percent. That equipment is sold to fiber optic carriers, such as Norlight, the Wisconsin-based network, which bought 50 E-MX3 multiplexers.

Ericsson has signed an agreement with IBM to try to combine IBM's data base and networking technologies with Ericsson's switching into products such as a virtual private network and 800 services. IBM is also selling products made by its Rolm subsidiary.

The last major foreign firm that is trying to break into the central

switch market is Stromberg-Carlson, an old-line American firm purchased by Plessey. Stromberg's traditional market is the small independent telephone company, but it caused a stir in April by signing a \$100 million agreement with BellSouth to purchase 600,000 lines of switches.

ARTHUR BRODSKY is senior editor of Communications Daily, a telecommunications newsletter published in Washington D.C. by Television Digest.

## Diversity of 'Telemail' Languages Is Blocking Exchange of Services

By Edward Roby

**B**ONN — Europe's would-be electronic mail users find themselves in much the same dilemma as the lost city slicker who was informed by a taciturn New England farmer that his travel destination was "just over yonder, but you can't get there from here."

The corporate sales manager of a West German manufacturing company might want to use his Bundespost "Telebox" electronic mail service to exchange confidential messages and instructions with his sales representatives in the field. But if those representatives happen to be in France or Italy, he is flat out of luck.

The Bundespost system simply does not mesh with the ones in use in those countries. Nor can one reach neighboring Austria, Belgium, East Germany or Sweden.

There are easily over one million telemail users in dozens of countries around the world but only about 200,000 of them, mostly in the United States and Britain, can be reached through the Bundespost system, which has managed to attract only about 1,000 subscribers since its inception in 1984. And the situation is much the same elsewhere.

In North America, for example, there are at least 14 major competing telemail networks. The bewil-

The electronic mail networks will have to learn a common language by adopting uniform telecommunications standards.

dering choice has led to the thickest density of telecommunications "mailboxes" in the world — 764,000, by last count. But the networks are not necessarily compatible with each other.

German, American and British subscribers can communicate if they happen to have the Dialcom system, now a property of British Telecom, which the Bundespost has adopted. But communications break down quickly if a German sender wants to reach an American addressee served by Western Union Easylink, U.S. Sprint Telemail, AT&T Mail, RCA Mail or MCI Mail, to name a few.

In general, he would be even more isolated from the outside world if he had turned to one of

several private electronic mail operators, including Combox in Berlin, Deutsche Mailbox GmbH and Infex GmbH in Hamburg and Geonet near Kassel. The private, commercial networks are typically geared to domestic users and are unable to carry the large volumes of data that some subscribers might want to transmit via secure telemail.

Bernhard C.R. Kuhmeyer, a Bundespost expert on electronic mail, conceded that the services currently available are spotty and a bit chaotic. As he sees it, the problem is not one of various incompatible systems competing to dominate a potential market but rather a matter of isolated "islands that want to grow together."

"We hope that from the many islands a great continent will eventually grow," Mr. Kuhmeyer said. Before that happens, the electronic mail networks of the world will have to learn a common language by adopting uniform telecommunications standards.

An exhibit at the weeklong Telecom 87 exhibition in Geneva, which opened Tuesday, has been devoted to showing how telemail systems and services offered by 21 different manufacturers and telecommunications authorities can be made to communicate with each other using the X.400 standards.

This set of technical norms is what is supposed to meld the telecommunications islands into a continent. The X.400 standards seem to be on the verge of adoption by the important international standards bodies.

Theoretically, said Mr. Kuhmeyer, around two million telecommunications mailboxes could become mutually accessible within two or three years because of the current international standardization initiative.

But before this happens, somebody will have to devise a way to apportion costs and tariffs and develop some sort of directory of subscribers with accessing data. And that seems to call for the creation of something that might look very much like a supranational telecommunications authority.

Thus, it is conceivable that the current decentralization and privatization momentum in global telecommunications could come full circle.

An executive of Hewlett-Packard in West Germany suggested that network analyzing devices, which his company happens to make, might help to resolve the cost allocation problem.

It is a sign of the times that the Bundespost is participating in the Geneva X.400 demonstration along with Japan's KDD and Nippon Telegraph and Telephone Corp., Italy's Olivetti, France's Transpac, British Telecom and the Swiss PTT. Other participants include Dialcom, AT&T, Digital, Danet, Hewlett-Packard, IBM, Nixdorf, Philips, Alcatel, Teletel, Sydney Ltd., Unisys and Telesystems.

Fourteen major computer companies and public telecommunications authorities had gotten together for the debut of the X.400 Open Systems Interconnection at the Hannover CeBIT fair last March. This group included many of the same names as well as Siemens, Bull, Data General, Xerox and ICL International Computers Limited.

The X.400 standards permit communication between public and private electronic mail systems, direct communication between otherwise incompatible private telemail systems and global relay via multiple public systems.

The basic idea is that any electronic mail subscriber in possession of a data terminal, a telephone and an acoustical coupler ought to be able to enter into two-way but not simultaneous message traffic with any other subscriber, regardless of differences in equipment and networks.

The exchange of messages or data is mediated by an electronic central dispatching system analogous to a post office. And because each subscriber has a coded identity, the system is supposed to be secure enough to pass on confidential information from person to person. This aspect sets electronic mail apart from other media like telefax, telex, teletext and videotex.

The idea, which lends itself especially to the needs of far-flung sales operations, diplomatic missions, shippers, wire service and newspaper journalism and advertising agencies, caught on first in the English-speaking world. The Bundespost estimates that there are perhaps 2,000 subscribers to the private commercial electronic mail systems in West Germany. But Reinhard Schrutzi, a director of Hamburg's Chaos Computer Club, said there are more like 10,000 users because subscribers submit their teleboxes to cut costs.

His organization provides electronic mail services at cost for hobbyists who want to swap information. Mr. Schrutzi said there are around 40,000 to 50,000 of these around the country using electronic mail in one form or another.

Mr. Schrutzi, whose club made headlines in September by revealing that computer hackers had managed to penetrate NASA's international scientific computer network, said he also subscribes to the commercial Infex telemail service because it is cheaper than obtaining a telex to send his message traffic.

An Infex spokesman, Gerhard Fahrman, said his network offers its 600 electronic mail subscribers access to data banks as well as telex, telefax and videotex. For small businesses, which predominate among Infex subscribers, these features make it more attractive than the Bundespost electronic mail.

Mr. Fahrman said today's electronic mail operations are positioned to become the hub of such universal networks.

EDWARD ROBY is the Bonn bureau chief of United Press International.

## Satellite

By Paul Kemerer

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Imagine a world in which sharing any kind of information is as easy as making a telephone call across town.

In which a user of any computer, anywhere can share data with every computer user, everywhere.

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In which a Japanese businessman can draw line

from a cash machine in Rome as easily as from his home bank in Osaka.

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Arthur Brodsky



## Teleport Development

Language Services  
Satellite Dish 'Farms' Sprouting Worldwide to Speed Data Services

By Paul Kemezis

**S**AN FRANCISCO — Teleports, a product of America's deregulated telecommunications environment, are spreading around the world. By the early 1990s, there will be over a dozen teleports operating in Europe and at least six in Asia. However, they will all be different, with the forms of ownership and services varying widely depending on the local telecommunications regime.

The raison d'être of all teleports is that various high-speed digital and video services are not provided efficiently or economically by the local telephone company. Teleport developers believe that large data users, such as banks, news groups and television networks, will buy such premium digital services offered by teleports to get around the local bottlenecks.

The main component of a teleport is usually a satellite dish "farm" near a large city, usually offering facilities to several satellite transmission companies the way an airport offers services to airlines. Such a setup is possible because recent technical advances allow dishes to operate in cities despite urban interference.

The teleport's satellite access is normally

coupled with a sophisticated data communications hub providing high-capacity fiber optic or microwave links to the downtown business center and surrounding region as well as special services such as video-conferencing.

In the deluxe model, the teleport is also part of a "smart building" development, providing a way for businesses with large data transmission needs to operate directly at the satellite gateway. This gives them better service and cheaper overall costs.

The emphasis among these three components depends on the place. In Europe, for example, an American-type bypass of the local telephone company is still not possible in most countries because of PTT monopolies. Therefore, European teleports are being developed by local governments as zones of expertise and advanced services in cooperation, not in competition, with the PTTs that still control satellite access.

In Japan, the teleports are parts of semi-public office development schemes needed to overcome downtown business crowding.

Perhaps the most complete teleport is in New York. The facility, opened by Teleport Communications in June 1985, includes a satellite dish farm on Staten Island and a 150-mile (243-kilometer) fiber optic network running through Manhattan and nearby suburbs.

According to DuWayne J. Peterson, executive vice president of Merrill Lynch, which is a major investor in the project, "teleports have created their own systems because the telephone companies have failed to provide the right facilities at the right price."

The Bay Area Teleport in Oakland, California, operates much like the New York teleport with a regional microwave network drawing data traffic from as far as Sacramento. It boasts a geographically unique capability to shoot both Europe and Japan from its satellite dishes on a hill above San Francisco Bay.

In all, there are approximately 30 teleports in the United States, ranging from sophisticated New York-type operations to simple dish farms serving only the cable television industry.

In Canada, the Montreal and Toronto teleports are operated by Telesat, a subsidiary of the large Canadian telephone companies. They are integrated parts of the telecommunications system and will eventually be linked in a single network with similar teleports in Edmonton, Alberta; Vancouver, British Columbia, and other cities.

In deregulated Britain, teleports are a means of competition. Both British Telecom and Mercury operate teleports in London's giant Docklands redevelopment project with high-capacity

links to the city center. British Telecom provides cable television service to Europe and also serves several financial groups. Mercury has built its business around moving financial data across the Atlantic and worldwide, serving the London Stock Exchange and much of the banking community. Both look for business from publishing groups such as Reuters which are locating in the development.

On the continent, the teleport concept is much more fluid. The Dutch have teleports in Amsterdam and Rotterdam. The one in Rotterdam is mainly a large fiber network running through the 30-mile-long Europort complex with various scattered satellite connections geared for quick data services for shippers.

"If you ask a taxi driver to take you to the Rotterdam teleport, he can't," joked one official of the Amsterdam Teleport Office Park, now nearing completion, which is a "smart" building development at Sloterdijk emphasizing integrated trading services.

In France, several teleports are being planned, but in places such as Metz, Roubaix and Poitiers, where they are purely regional development vehicles. French officials are still unclear about Paris, where a regional teleport is on the drawing boards.

The most advanced teleport concept in West Germany stretches the definition almost to the

breaking point. Cologne city officials will convert the St. Gereon rail yard, at the edge of the downtown area, into the Cologne Media Park, a collection of "intelligent" buildings with special video and data services. But there will be no satellite dishes since the Bundespost will keep that business to itself and use existing installations, including its telecommunications tower in Cologne that literally overshadows the new development.

Jaap Engels, who chairs the World Teleport Association European section, said that most large European cities are looking at the teleport concept as a way to enhance their links to the international business, shipping and financial world.

Athens, Genoa, Naples, Vienna, Berlin and Madrid all have projects under study. Lisbon, as a satellite gateway to South America and Africa, will operate at teleport through its World Trade Center, a pattern likely to be repeated in other medium-sized business centers.

Mr. Engels said, "In Europe the teleports are pushing the PTTs to advance their plans for new services and put them first in concentrated zones. Businesses, who are frustrated by PTT slowness in providing new links, have begun to learn that they will probably get them faster through us."

European teleport backers were encouraged by the European Community's recent green paper urging liberalization of value-added telecommunications services, asserting that it confirms the thinking behind teleports even if all EC members are not yet ready to change policy.

The first phase of the Osaka teleport, with satellite and regional fiber optic links, will be in operation by 1989 with the full project serving a new business and research district on several islands in Osaka Bay ready by 2000. Plans for Tokyo and Yokohama are equally big but will take a few more years to come on line. Japan is expected to be the center of the teleport movement in Asia since South Korea, Hong Kong and Taiwan are only just starting plans.

Teleport promoters, such as Mr. Engels, believe the concept now has enough momentum to become an accepted, worldwide phenomenon; but others are cautious. For example, the idea of a unified global data network among teleports is still considered unrealistic by many experts.

PAUL KEMEZIS writes about telecommunications for McGraw-Hill in San Francisco.

## U.S. Study

Continued from page 1

would have liked, interpreting it to mean fabrication only, while the regional companies would be free to conduct design, development and research work on products.

As the basis for his decision, Judge Greene reasoned that the same basic condition that existed at divestiture still exists: the telephone companies control local bottleneck facilities with little or no competition, and still have the incentive and opportunity to take unfair advantage of competitors if allowed into the long-distance and manufacturing businesses.

But Judge Greene also wanted to increase the chances for a video-text service to develop, without endangering the information service providers. They, like long-distance providers, are dependent on the connections to the local network, according to Judge Greene.

Most of the regional companies, the Federal Communications Commission and the Reagan administration criticized Judge Greene's decision.

At the FCC, major regulatory policies were formed that will have an impact on telecommunications for years to come. One, made by Dennis R. Patrick who succeeded Mark S. Fowler as FCC chairman in April, would change the manner in which AT&T, and possibly the other telephone companies, are regulated.

Now, the FCC sets a rate of a return for interstate AT&T and local exchange carrier services, based on the costs of those services, and allows the companies to set their prices to meet the mandated rates. This "rate-based" pricing is frequently used in regulating other utilities, such as electricity and gas.

In August, the FCC proposed simply setting a cap on AT&T's prices and allowing it to earn whatever it could under those prices. If this system works well with AT&T, it could be extended to the interstate services of local telephone companies.

AT&T, which has been fighting since divestiture for regulatory relief, has supported the proposal. But many opponents argue that it will give AT&T too much room to underprice some competitive services and overcharge for others for which customers have little choice.

A second major issue at the FCC is how the regional companies will be able to offer enhanced services, many of which are not yet allowed under the terms of the divestiture consent decrees. The FCC said that the regional companies could do away with a 1980 mandate that a structurally separate RHC subsidiary had to be established to offer the services, and said that the regional companies had to comply with FCC ordered accounting standards to make sure that rate payers did not subsidize competitive services.

In exchange for this less rigorous regulatory structure, the FCC ordered that local telephone companies had to make connections to their network available to other service providers.

For the short term, the FCC mandated that the regional companies come up with plans for Comparable Efficient Interconnection, meaning that competitors in the enhanced service market would have a reasonably identical connection — the data equivalent of equal access in the voice business.

For the long term, the FCC said that the regional companies had to establish an Open Network Architecture plan, which would allow service providers direct access to the telephone company central office. Plans for accomplishing this are due at the FCC in February. Each regional holding company has conducted discussions with users and service providers to determine what connections should be offered.

In its most controversial proposal, the FCC proposed this year eliminating a loophole that had exempted information services, such as videotex data-based providers, from paying the access charges demanded of long-distance carriers for use of a local telephone network. The proposal met stiff opposition from the information data-base industry.

Arthur Brodsky

PHILIPS



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The Mobile Connection

# Nordic Pioneers in Cellular Phones Still Dominate World Industry

By Juris Kaza

**S**ALO, Finland — From a Finnish factory town on the banks of a muddy river and from Stockholm's high-tech suburb, Kista, two Nordic companies, Oy Nokia AB and Ericsson, dominate much of the

world cellular telecommunications market.

Nokia-Mobira, a subsidiary of Finland's largest privately owned electronics, forestry and industrial conglomerate, is a leading maker of cellular phone handsets, or "terminals." These are the devices seen in the cars of businessmen or as hand-held phones carried by

engineers on building sites or by executives into board meetings.

To the west across the Baltic, Ericsson Radio Systems (ERS), a subsidiary of the Swedish telecommunications and office automation group, has delivered around 40 percent of the "invisible" equipment serving the 1.8 million cellular phone users, according to

Lars Jonsteg, manager of systems marketing at the cellular radio division of ERS.

The system components include digital exchanges and a network of base stations, one serving each cell. While Jorma Nieminen, president of Nokia-Mobira, declares that "the aggregate mass of mobile phones is the biggest part of the

mobile telephone industry," Mr. Jonsteg stresses that it is each system's capability that determines what customers can get out of their individual terminals.

"In Europe, we are number one, generally, and in world ranking, Nokia-Mobira was number one," said Mr. Nieminen. "This year we are among the top three, but the

differences among them are marginal. Our world market share is between 13 and 15 percent."

Despite its top position, Nokia's international profile is lower than the actual reach of its products. In the United States, it holds a market share of around 14 percent, but its mostly South Korean-made equipment is marketed under the

Tandy name through the Radio Shack chain.

"We have recently started a Nokia-Mobira unit in Florida, and the intention is that the market share with our own brand name will climb, from around 2 percent to 3 or 4 percent in the near future," Mr. Nieminen said. He added that "this has been agreed with Radio Shack." The unit sells Finnish-made Mobira models suitable for the U.S. AMPS system.

Internationally, he said that the fastest growing market is Britain. Nordic markets have grown 10 times faster than projected and some are saturated. "In Iceland, we will have to start selling to the sheep," quipped a Nokia-Mobira executive.

Both Nokia and Ericsson executives agree that the United States is the largest potential market for mobile telephones.

(In Geneva last week, the International Telecommunications Union, which groups some 100 countries, opened more frequency bands for mobile phones using satellite technology. The move was primarily designed to expand car and plane telephone service in North America.)

Sweden claims to have pioneered mobile telephony in 1955. However, the explosion of the cellular market really started in 1981, when the Nordic countries and Saudi Arabia opened the first stages of the Ericsson-developed Nordic Mobile Telephony (NMT 450) cellular system.

NMT in its 450 megahertz (Mhz) and 900Mhz (NMT 900) versions has been adopted by 16 countries and is one of four standards available in the world. It is regarded as one of the most flexible and most advanced. NMT is also the largest system in the world with about 20 percent of all the world's subscribers found in Denmark, Finland, Iceland, Norway and Sweden.

NMT as implemented in the Nordic area allows subscribers to automatically dial any direct-dial number in the world, and for automatic "roaming," or moving between areas controlled by different switching exchanges. This means a Finnish subscriber can travel to Norway and still take calls, for instance, while visiting a customer on an oil rig.

Roaming is still not possible with the U.S. AMPS standard sys-

## Cellular Phones

Where cellular phones are distributed throughout the Nordic region.

Country	Number in use
Denmark	55,000
Finland	49,600
Iceland	2,000
Norway	89,100
Sweden	112,600

Source: International Telecommunications Union

tems that cover single phones or areas. In Europe, the next technological breakthrough will be the single, digital mobile telephone network agreed to in principle by 16 countries. It will start operation in the early 1990s.

Although scrambling is available on present-day cellular equipment, the more expensive digital service will improve security. During the merger negotiations between Asea and Brown Boveri of Switzerland, for example, executives at the Swedish company were reportedly forbidden to mention the deal on their cellular phones even though hundreds of calls are made simultaneously on the Swedish network.

Mr. Nieminen of Nokia said that despite data transmission options available on his and competitors' equipment, cellular telephony is still primarily a voice medium and the growth of other services is slow.

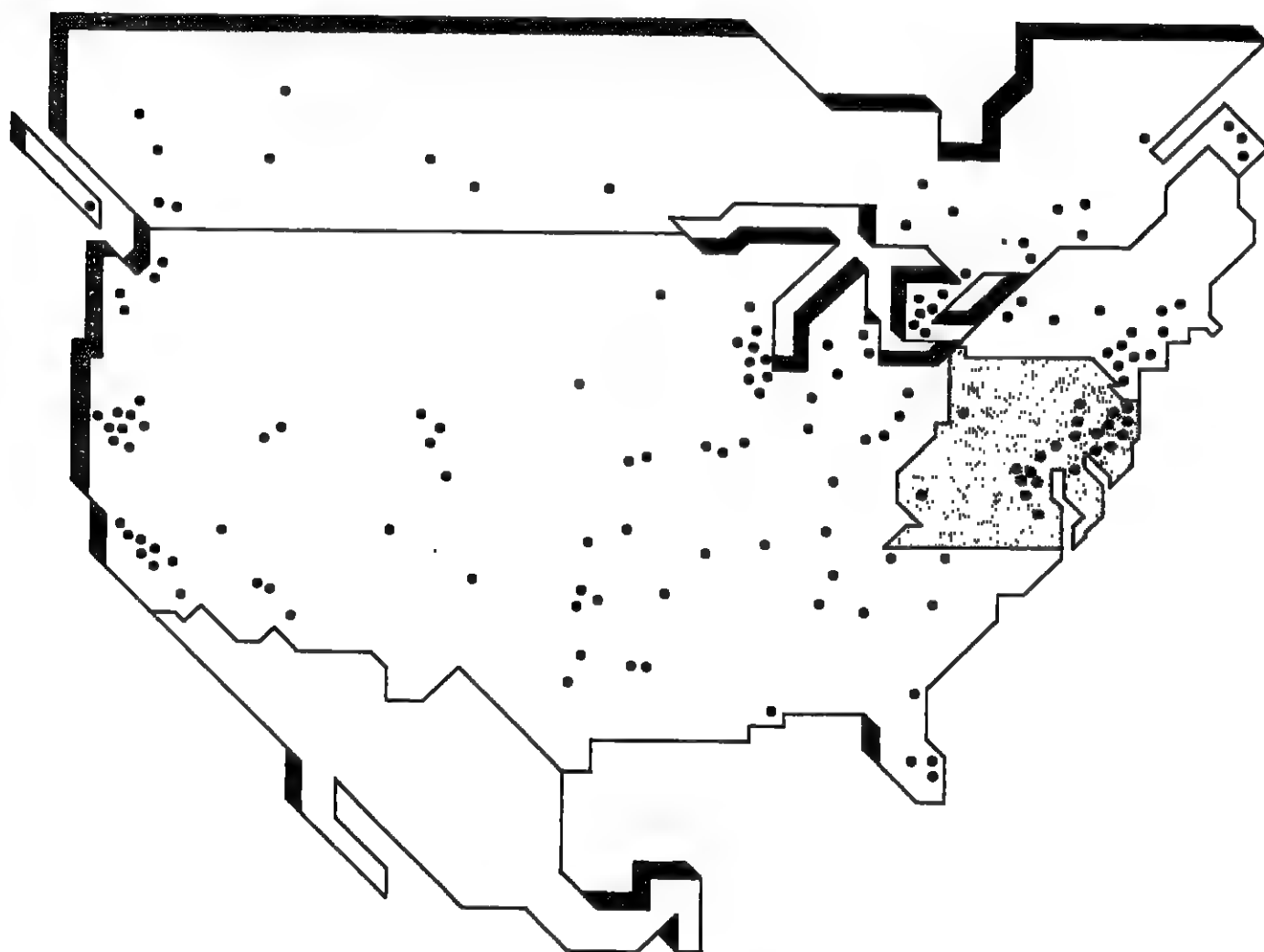
ERS can deliver equipment suited for all the major international standards, and the company uses its experience in system planning as a major selling tool, according to Mr. Jonsteg.

"Cell planning is an important part of our service, and we work with the expectation that the systems we deliver will be expanded," he said. "Every 25th new subscriber requires a new channel, or 49 new channels per 1000."

Although it still regards itself as mainly a systems supplier, Ericsson entered the Nordic handset market with a campaign for its "Hotline" NMT 900 unit.

**JURIS KAZA**, based in Stockholm, contributes regularly to the International Herald Tribune's business pages.

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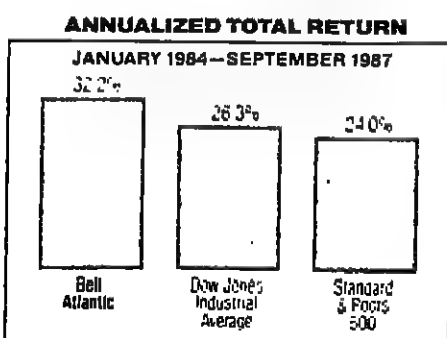


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## Americans Love 'Gadget' for Rich

By Calvin Sims

**N**EW YORK — When cellular mobile telephones were introduced four years ago, they were gadgets only of the rich and powerful. Now everyone from drug dealers in Miami to taco vendors in New York City has one.

Indeed, there are now 800,000 cellular phones in use in the United States, and they are changing the way Americans communicate and conduct business. And that number will rise to more than three million by 1990, a trade group, the Cellular Telecommunications Industry Association, predicts.

Improved technology and dropping prices have helped the phones become so popular. But even more important is their convenience. With a car or hand-held cellular phone, users can receive and return calls from almost anywhere, eliminating lost time and increasing productivity.

When Illinois Bell offered the first cellular service in Chicago in 1983, critics likened the new mobile phones to citizen band radios and called them a fad that would never last. But these critics failed to realize that, unlike citizen band radio users, cellular phone customers are not limited to talking with one another; they can call someone anywhere in the world.

Cellular phones also have a big advantage over their predecessors, the far more limited radio phones, which had been around for more than 40 years and are now virtually extinct. Each radio-phone system depended on a single powerful antenna and a few channels, so the service area was extremely limited and the number of possible users small.

Before cellular phones were introduced, there were only about 1,000 mobile telephones in New York City, and only 12 could be used at the same time. By contrast, a cellular system in a city can handle several hundred thousand users at once because it divides the area into small cells.

Each cell is 2 to 10 miles (3 to 16 kilometers) across and contains an antenna hooked to a low-power radio transmitter and receiver. When a car moves from cell to cell, the conversation is automatically transferred from antenna to antenna without the customer noticing.

The rapid proliferation of cellular phones and projections of continued strong growth have made companies involved in the business some of the hottest investment stocks in the country.

When McCaw Communications Inc. held its initial public offering last month, for example, the nation's largest cellular operator quickly sold more than 11 million shares at \$21.75 each, or more

than the \$17 to \$20 that analysts had expected.

Cellular phone carriers have invested more than \$1.7 billion in building their systems and will generate more than \$1 billion in revenues this year, analysts and industry officials predicted. By 1990, sales from cellular service should top \$3.6 billion, according to Dataquest, a San Jose, California, market research firm.

There are about 44 operators of cellular phone systems. The Federal Communications Commission licenses two carriers in each market. One of the two licenses is owned by the regional Bell telephone company serving the area. These so-called "wireline" franchises were granted to the regional companies when they were spun off from the American Telephone and Telegraph Co. in 1984.

The other, "non-wireline" franchise is owned by a private company, such as McCaw, which must bid for the license. After McCaw, which operates in 94 markets with a total population of about 37 million, the biggest non-wireline operator is the Lin Broadcasting Corp., which has licenses to serve areas in which more than 16 million people live, including New York, Los Angeles and Dallas.

Although the regional Bell companies cannot own the non-wireline franchise in their region, they have been buying up those in other areas. For instance, Southwestern Bell agreed in June to buy the cellular and paging operations of Metromedia Inc. for about \$1.2 billion. The deal still needs regulatory approval.

If the acquisition is approved, St. Louis-based Southwestern would become the second-largest player and would be competing with other regional Bell companies. In Chicago, for example, Southwestern would go head to head against Ameritech.

Although experts predicted that the market for cellular service would continue to expand, they said that the rate of growth would depend heavily on the cost of service and equipment.

The average cost of a car phone has dropped in the last two years from more than \$2,000 to \$1,400, with prices as low as \$900, but the average price of the more expensive portable phones remains at about \$2,300. The average monthly phone bill runs between \$100 and \$150, including a basic service charge and about 50 cents for each minute on the phone. And the cellular phone user is charged for incoming as well as outgoing calls.

"When the monthly costs to subscribers goes down, that's when the boom will really come," said Robert W. Maher, president of the Cellular Telecommunications Industry Association.

© The New York Times

*Handwritten signature: John J. Jacobs*



## Television ■ Telephones

## Cable Industry Basks In Rate Deregulation

By John Wolfe

WASHINGTON — At a recent financial seminar in New York City, the president of Cablevision Industries, Alan Berry, announced that his company plans to purchase a 33,000 subscriber cable television system in southern Florida for nearly \$120 million, a deal industry observers valued at well in excess of \$3,000 per subscriber.

That would be a record per-subscriber price for a system sale in the cable industry, where \$1,500 per subscriber was the ceiling for system transactions as recently as two years ago.

"We think it is the best business in America," said Richard MacDonald, a cable analyst and vice president of First Boston Corp. "Some of us do, anyway."

That bullish view was echoed by Andrew Wallace, a Paine Webber analyst, who wrote in a recent report that cable stocks were as popular now as Iowa farmland and oil service stocks were in the late 70s. The cable industry, Mr. Wallace noted, is "currently basking in investor euphoria."

A number of factors have combined to create the current economic boom in the cable industry, according to many financial experts. Most importantly, federal deregulation of cable rates took effect at the beginning of this year, and with the freedom to raise monthly subscriber fees came increased operator cash flow.

Moreover, with the prime lending rate at 7.5 percent as recently as this spring, cheaper money was available to finance cable system acquisitions. And both the pace and value of cable transactions has increased.

Paul Kagan Associates, a research firm in Carmel, California, recently reported 118 cable system transactions through the first five months of 1987, involving 3.7 million subscribers with a total value of \$5.16 billion. Roughly the same number of systems changed hands during the same period last year, but the total value was only \$1.9 billion, with 1.4 million subscribers involved.

The players in the brisk cable acquisitions game include both new entrants bidding for a piece of cable business and established multiple cable system operators seeking to increase and consolidate their holdings. For example, Tele-Communications Inc., America's largest multiple system operator, has embarked on an aggressive acquisitions campaign and now controls roughly five million of the nation's estimated 44 million cable subscribers.

The new entrants include Jack Kent Cooke, owner of the Washington Redskins football team and founder of what eventually became Group W Cable. Mr. Cooke entered the cable business in January when he bought McCaw Communications cable systems for \$1,750 per subscriber, among

the top prices paid for cable properties at that time.

In June, he purchased systems from First Carolina Communications serving approximately 167,000 subscribers. Mr. Cooke's cable operating company, Cooke Media, has rapidly become one of the nation's largest multiple system operators.

Some experts have estimated that the cable industry's aggregate cash flow for 1987 could reach \$6 billion. Paine Webber, meanwhile, has predicted that operators' cash flow will increase by 12 percent annually through 1991.

Increased revenue can be particularly beneficial to industries such as cable, which have a high degree of fixed costs due to the

**The industry's aggregate cash flow for 1987 could reach \$6 billion.**

largely completed construction of physical plant. "The incremental profit margin is very, very high," Mr. MacDonald explained. "For every new dollar of revenue, 75 cents can be profit."

Greater cash flow has been fueled primarily by the widespread rate increases made possible when Congress deregulated the cable industry in late 1984. Rate deregulation took effect on Dec. 31, 1986, and the Cable Television Administration and Marketing Society (CTAM) has found that, on average, the price of basic cable service has increased about 21 percent.

According to Paine Webber's Mr. Wallace, most operators raised basic fees by 10 percent to 12 percent during the first quarter of 1987. Cable industry "hawks," he noted, raised their rates by 20 percent or more. Beyond 1987, Mr. Wallace predicted that operators as a whole would raise their rates by one dollar, or about 8 percent per year.

Thus far, according to analysts and industry officials, the rate hikes have generated little subscriber fallout. "This product has yet to reach any resistance from consumers because of price," Mr. MacDonald observed.

Indeed, for many cable companies, the first three months of deregulation saw significant increases in the number of cable

## Who's Who in Cable Acquisitions

Buyer	Deals	Subscribers	Value
Tele-Communications Inc.	6	793,000	\$1.25 bil.
Jack Kent Cooke	2	589,000	\$1.04 bil.
Cablevision Systems	7	278,000	\$529 mil.
Adelphia Communications	3	173,000	\$347 mil.
Robert Ross	2	159,000	\$345 mil.
Simmons Communications	1	106,000	\$182 mil.
First Carolina Communications	2	103,000	\$173 mil.
United Artists	1	90,000	\$150 mil.
Falcon Cable	8	78,000	\$131 mil.
Cablevision Industries	3	70,000	\$110 mil.

Source: 1987 Cable TV Investor, estimates of Paul Kagan Associates Inc., Carmel Calif.

subscribers. The president of Tele-Communications Inc., John Malone, head of the nation's largest multiple system operator, has said that the first quarter of this year was his company's best in terms of signing up new customers.

Most industry officials credit the increased subscriber rolls to the marketing practices that accompanied the rate increases. Many cable operators, for example, added a host of new cable networks to the basic tier when the price for that level of service went up. Also, most companies combined increases for basic service with slight decreases in the price subscribers pay for premium networks such as Home Box Office, Showtime and the Disney Channel.

Cable cash flow has been further bolstered by the emergence of alternative revenue sources such as the recent home shopping phenomenon. Many of those home shopping networks are partly owned by cable companies, and virtually all the services offer a commission to system operators for purchases made by their subscribers. Other revenue sources include still-developing pay-per-view services and advertising sales, which operators claim have not nearly reached their potential.

However, industry leaders have cautioned that the rising prices of cable systems can not be justified solely by rate increases, and many cable companies have placed a renewed emphasis on increasing the industry's penetration in U.S. television households. Cable's current penetration rate is 50 percent, meaning that roughly half of all U.S. television homes receive cable. But an estimated 43 percent of those homes with cable available refuse to subscribe.

To attract those who could buy cable but will not, operators are banking on improved programming unavailable through other means. The past year has seen cable companies increasingly investing in cable networks, and most popular cable networks now have at least some degree of operator ownership.

Most recently, for example, a group of about 30 multiple system operators, bought

into the financially troubled Turner Broadcasting System, which owns Cable News Network, CNN Headline News and Superstation WTBS. TBS chairman, Ted Turner, now hopes to launch Turner Network Television, a cable-exclusive service that will bid for the rights to major events currently monopolized by broadcast television.

The cable industry's increased support for its programming services has had a visible impact on those services' bottom line. Dennis Leibowitz, media analyst at Donaldson, Lufkin & Jenrette, recently predicted that the basic cable networks will earn \$250 million during the next fiscal year — a figure that nearly matches the \$270 million the three major broadcast networks earned last year.

With upbeat financial prospects for both cable operators and networks, the value of the cable industry's assets is now nearly double that of the broadcasting industry. The total value of the cable industry is roughly \$67.1 billion. Broadcasting magazine recently reported. By contrast, the aggregate value of the entire television broadcasting industry is about \$38 billion, the magazine calculated.

But cable's growing economic clout does not sit well with the industry's traditional competitors: broadcasters and program producers.

These groups, led by their trade associations in Washington, have been lobbying Congress and the Federal Communications Commission to deregulate cable.

Many financial analysts, however, appeared undeterred by the prospect of onerous government action. A Shearson Lehman Brothers analyst, Edward Hatch, for example, recently advised investors that the financial impact of any cable industry regulatory compromise "should be minimal" and "should not detract from cable's attractive media franchise and excellent growth prospects."

JOHN WOLFE is the managing editor of Cablevision Magazine.

## National Systems Resist Value-Added Networks

By Vivian Lewis

PARIS — Paribas, the leading French investment bank; Credit Agricole, the second largest commercial bank; Sema-Metra, a leading software company; and IBM are not companies that ignore the law.

Yet by creating a new company offering value-added network data transmission services in France in competition with the telephone company's Transpac system, this quartet of multinational banks and companies was in violation of French law. Until the law is changed in France, private value-added networks (VANs) are not allowed to compete with the French telephone company, which, like those in many European countries, is operated by the post office.

The conservative government of Prime Minister Jacques Chirac is committed to deregulating the telephone system in France, but it has already put off its earlier target for submitting new legislation before the end of this year. Given that there will be elections early next year, many observers feel the law will not be passed in time, and the new VAN company will have to be legalized by a special decree.

This confusion is not confined to France. Following the major deregulation of the telephone monopolies in the United States, Japan and Britain, other European countries where the telephone company is run by the post office, such as the Netherlands, Spain and Finland, are also planning changes. Outside Europe, even Israel is working on deregulation.

However, one major country, West Germany, is resisting pressure for change. The West German Bundespost has blocked international standard modems and interconnection devices from working on German telephones. This policy is supported by both the Christian Democrats and the Social Democrats. Only the Free Democratic Party favors changing the system.

The Germans argue that their public telephone system is required by law to operate as a public service whatever the cost. This means that large computerized users of telephone lines have to be charged in order to subsidize, for example, the provision of telephone lines to isolated farms in the Bavarian Alps. In part because of German domestic politics, progress on international deregulation of data transmission services has been blocked.

But West Germany is not the only country where other concerns have blocked the rise of telecommunications VAN competition. There are other reasons, such as the protection of national sovereignty and infant industries, fear of cultural imperialism or powerful multinational corporations, that have led some countries, particularly in Latin America, to resist the pressure for change.

A major obstacle to cross-border data transmission and processing is the protection of privacy and the right of reply. Fear that information that is nobody's business and that cannot be corrected by the subject is being leaked outside the country has led many European countries to enact privacy protection laws that interfere with data flows. The Scandinavian countries, Austria and Luxembourg are particularly active in this respect.

But other countries are anxious to keep data home in order to protect data processing jobs or to maintain their ability to develop hardware and software



for new applications. This is a form of protectionism. Many countries insist that they are protecting their networks by setting up technical barriers to use of foreign equipment that may harm or overload their systems. The proliferation of technical standards interferes with international operations and acts as a kind of nontariff barrier to telecommunications flows.

The United States, having pioneered the idea of telephone services competing with one another, is at the fore of deregulation although it draws limits to that policy.

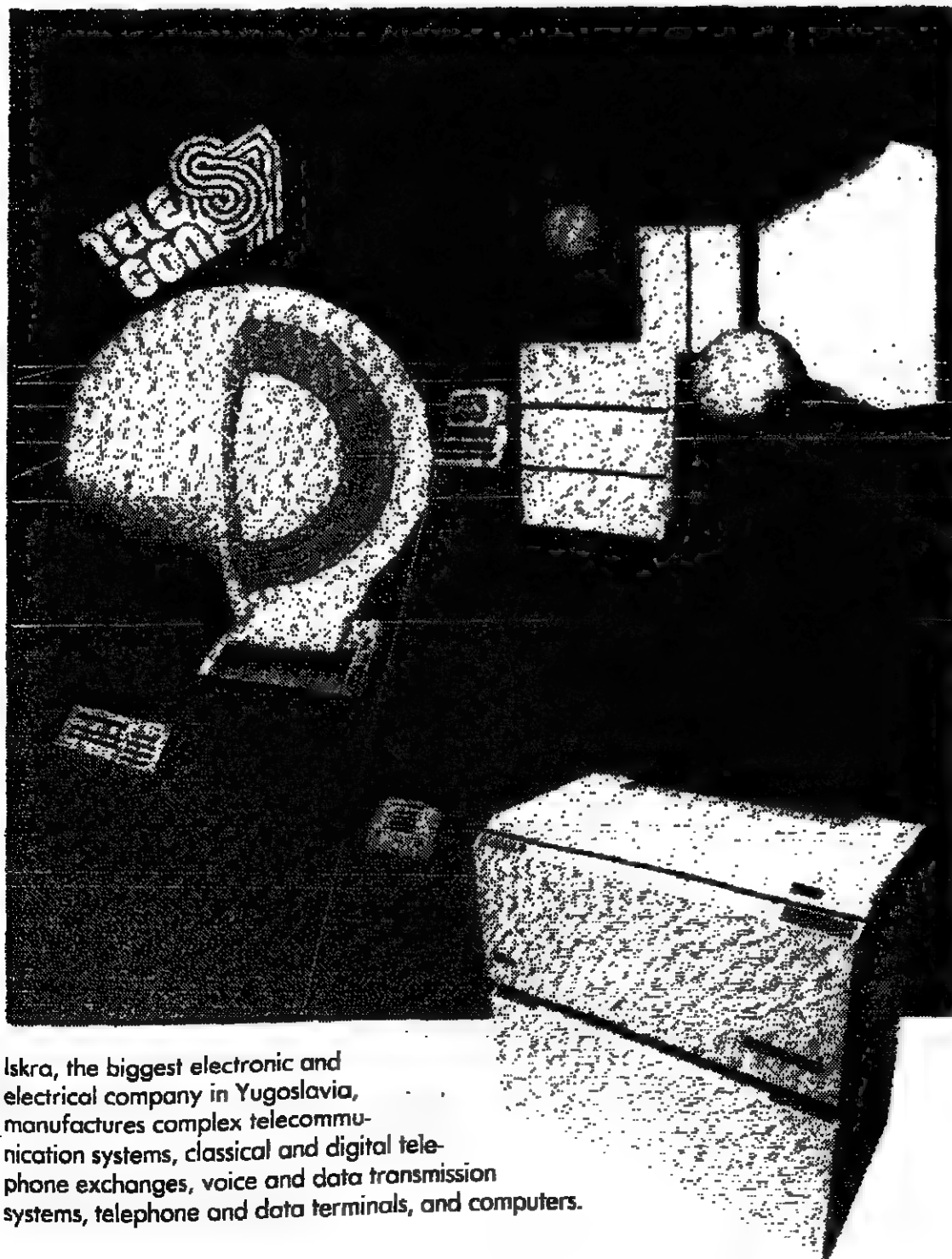
During the Carter administration, to stop Dresser Industries' French subsidiary from making large-diameter oil pipelines to sell to the Soviet Union after the Soviet intervention in Afghanistan, the United States required that the parent Dresser firm cut it off from access to the computer it needed to design them.

One way it is hoped to remove obstacles to the development of an international market is through the talks on freeing trade in services that will go on over the next several years in Geneva under the Uruguay Round of the General Agreement on Tariffs and Trade.

But unless there is a shift in West German policy, the European Community, which negotiates as a bloc in trade talks, will not be able to negotiate any major deregulation of international telecommunications and data processing.

VIVIAN LEWIS is a Washington-based financial journalist, formerly reported from Paris.

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The French earth observation satellite.

## SPOT Adds New Technical Dimension to Spying

By Judson Gooding

**P**ARIS — The art — or science — of espionage has taken on a new and global dimension, thanks to the astonishing capabilities of France's SPOT space photo satellite, the most advanced remote-sensing civilian satellite in the world.

With SPOT — the acronym stands for the French name, *Système Probatoire d'Observation de la Terre* — naval officers from small countries with limited military budgets can get a low-cost fix on the enemy's harbor defenses and fleet disposition; businessmen can study the progress of their competitors' new plants being built in Taiwan; and journalists can dazzle their readers with "forbidden" pictures of the damaged Soviet reactor at Chernobyl, or Pakistan's uranium enrichment plant at Kahuta, which may soon allow that country to produce nuclear weapons.

However, France and the two countries that participated with modest shares, Sweden and Belgium, did not make the \$350 million commitment of resources necessary to create the sophisticated satellite just to satisfy the curiosity of newspaper readers or businessmen or military leaders.

SPOT was created to furnish hitherto unavailable information to science, agriculture, forestry, environmental specialists, urban developers and other such users. The intelligence and espionage ap-

plications are serendipitous, but they certainly help to defray costs.

Now, after a year and a half of operation and more than 6,300 orbits of Earth, SPOT has proven the validity of its design. It outperforms the only other civilian Earth-observing satellite orbited thus far, the U.S. Landsat, which was sent up in 1972.

(The recently announced Soviet high-resolution earth photo offerings are not considered to be from a civilian source, and there are no precise indications yet of just how much the Soviets will be willing to show, or exactly what their service and repeat delivery capabilities may be. The Soviet system uses photo images, which have limited applications compared to SPOT's digitized data images.)

SPOT records images of the Earth shot from 514 miles (834 kilometers) up, using 8-foot (2.4-meter) 551-pound (251-kilogram) telephoto lenses. It can show objects as small as 30 feet long, whereas the Landsat is restricted, by Defense Department regulations, to showing nothing smaller than 100-foot objects.

SPOT's higher resolution power, or acuity, makes its pictures far more informative. (Military satellites, both American and Soviet, fly lower and have much greater resolution power; they can, for example, pick up car license plate numbers, but their pictures are, of course, not generally available.)

"With its high resolution, SPOT brought remote sensing out of the closet and into the information age," said Mark

Bender, an editor for the American Broadcasting Company in Washington who is chairman of a media task force on remote sensing.

The French satellite introduces a number of advantages in addition to its sharper eye. Unlike Landsat, it can deliver

**'SPOT' brought remote sensing out of the closet and into the information age.'**

three-dimensional images. It can re-photograph a specified site within 24 days for comparisons, charting the growth of crops or the advance of a forest fire, compared with 16 days for a repeat shot by Landsat. It can deliver images in wave lengths not otherwise available.

The three-dimensional effect is made

possible by using directional mirrors, which, controlled from the earth station, permit it to look sideways from orbit rather than straight down. This oblique view can then be shown as is or it can be corrected by computer processing so that it appears to be straight down, and it can be combined with views at other angles to produce pictures in "stereo."

It is this capability for shooting pictures sideways, and having them appear to be directly below that, by vastly widening the area covered in each sweep, allows SPOT to view any given place with twice-a-week or greater frequency.

SPOT was put together by Matra, the space and defense contractor, with the collaboration of 12 major subcontractors, working under the direction of France's space agency, the National Center for Space Research. It is highly complex and sophisticated, with on-board altitude and orbit sensors and controls, computer control of camera programming, a solar power and storage system, and the ability to acquire 24 million information bits per second. It has worked perfectly since being launched by an Ariane rocket from the space station in French Guyana.

Its giant cameras record what it sees, line by line, dot by dot. The light is changed into electrical signals, which are then amplified, digitized and transmitted. When the data are received at the Earth station, they are decoded and constitute a picture.

The images are available for sale to

whoever wants to order them and is willing to pay the price: from \$400 up for black-and-white prints or \$410 for color. Customers can order simply by defining the area they want covered. The variety of uses is wide.

Foresters monitor the growth of newly planted seedlings and the advance of forest fires; farmers and agronomists watch for changes in soil moisture and for the spread of disease in crops; geologists seek out patterns that can indicate mineral or oil deposits under the surface; cartographers keep tabs on changes in urban areas and on the spread of suburbs; the advance of new roads and of deserts; commercial fisheries watch thermal ocean currents that may help locate schools of fish.

France's national space agency is preparing to launch a second, improved SPOT — SPOT-1 will last only 2½ years in orbit — in 1989. It also has SPOT-2 and SPOT-3 in preparation for launch.

Meanwhile, Japan, West Germany and the European Space Agency are working on plans for their own earth photographic satellites. There would seem to be considerable room for competitors in a market that observers predict may total as much as \$4 billion annually by the year 2000.

**JUDSON GOODING**, the European correspondent for *Omni* magazine, is the author of "The Job Revolution" (Walker & Co., New York).

## Cable TV Challengers Waging Uphill Battle to Break Into Market

By John Wolfe

**W**ASHINGTON — While the U.S. cable television industry has prospered over the past year, alternative technologies such as backyard satellite receiving antennas and microwave-delivered "wireless cable" systems have met with little success in their efforts to secure a foothold in the video marketplace.

Proponents of these competing technologies lay much of the blame for their struggles on the cable industry, which they view as having a chokehold on the distribution of popular satellite-delivered programming services. Access to that programming, they maintain, is crucial for the backyard dish industry and wireless cable operators to survive.

Doug Malmgren, for example, is seeking financing to expand a five-channel wireless cable system in Billings, Montana. His fundraising, however, has been hampered by his inability to offer the most popular cable services to Billings homes. Potential investors have been "seriously concerned about my lack of quality programming," Mr. Malmgren said during a recent Wireless Cable Association convention here.

Nearly all of the popular satellite-delivered programming services were created for cable

distribution; and lately, many major cable companies have bought equity interest in most cable networks. Most recently, a consortium of 30 cable operators bought nearly 50 percent of Turner Broadcasting System, owner of the popular Cable News Network and Superstation.

That ownership, cable critics say, has translated into little incentive to deal with potential competitors to traditional cable systems — a development that backyard dish and wireless cable officials consider the chief obstacle in their path to commercial success.

The backyard dish industry, for example, had flourished as recently as two years ago, when 1.5 million home antenna systems had been installed, and industry executives had predicted that 3.5 million homes would be equipped with satellite dishes by the end of 1986.

But cable networks also began to scramble their satellite signals that year, forcing dish owners to purchase a \$400 decoder box and pay monthly subscription fees to view programming they previously had viewed for free. Dish sales plummeted from 750,000 units installed in 1985 to 215,000 installed in 1986, according to the Satellite Broadcasting and Communications Association (SBCA).

Now, as more and more services scramble, the emphasis has shifted to delivering packages

**The cable industry is accused of having a chokehold on the distribution of popular programming services delivered by satellite.**

of programming direct to home dish owners. Both cable companies and individual programmers have launched competing packages, and those efforts, combined with more readily available decoders, have led to a mild resurgence in the backyard dish business. Monthly dish sales which were as low as 16,000 in June had risen to 28,000 in September, the Satellite Broadcasting and Communications Association said.

Moreover, programmers recently have begun to cooperate more with dish dealers. Many networks, for example, permit dealers to serve also as agents, earning commissions for programming subscriptions.

"Scrambling at first was perceived as a very

negative thing," observed Hal Haley, owner of Davis Antenna and the chairman-elect of the SBCA. Now, he said, "we're starting to realize that it can be a positive thing. We're in the programming business." Mr. Haley predicted that nearly 600,000 dish systems would be installed in 1988.

Satellite industry officials have also identified some technological developments that have helped the backyard dish industry recover. For example, about 60 percent of all new satellite system sales are integrated units including a decoder. Also, new "flat plane" satellite antennas will be introduced in the United States early next year and may be available for residential use by the end of the year. Those

systems, which could sell for under \$1,000, can be mounted on a wall or roof and are ideal for urban residents.

But the backyard dish industry is still at odds with the cable industry over whether independent companies should be allowed to package satellite programming. To date, however, only programmers and cable operators are able to offer packages to dish owners.

Dish industry advocates have claimed that third-party packaging is necessary to bring subscription prices down, and many organizations, ranging from Amway Corp. to the nation's rural electric cooperatives, are seeking rights to distribute scrambled programming. Significantly, their efforts have won the sympathy of key legislators, most notably the presidential candidate Senator Albert Gore Jr., Democrat of Tennessee, who has accused the cable industry of exerting monopoly control over programming.

Senator Gore and other dish advocates have introduced legislation that would require satellite programmers to deal with third-party distributors. Industry observers have predicted that the Senate will pass that measure later this year, but the prospects for a companion bill moving in the House of Representatives are far less certain.

The nascent wireless cable industry has also found a champion: Representative Charles E.

Schumer, Democrat of New York, who has urged the Department of Justice to investigate programmers' alleged refusal to deal with alternative technologies. Addressing wireless cable operators at their recent convention here, Mr. Schumer promised to do "whatever it takes" to inject competition into the cable industry.

Justice Department officials have not responded publicly to his request. The department recently examined cable's scrambling plans, however, and told a House subcommittee that it had not uncovered any antitrust violations.

Wireless cable is the common name given to multipoint multichannel distribution systems (MMDS), which the Federal Communications Commission has authorized in most U.S. cities. Under amended FCC rules, MMDS operators can now strike deals with other local microwave licensees, resulting in nearly 20 channels in some communities available for delivery to homes equipped with small microwave receiving antennas.

To date, there are about a dozen wireless cable systems operating in cities ranging from Cleveland, Milwaukee and Philadelphia to Billings, Montana, and Salina, Kansas. The industry's showcase has been MetroTEN's Cleveland system, which operates in one of the few U.S. cities still not wired for cable.

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As a major telephone directory publisher in the U.S., we produce more than 1,200 directories and related publications across 46 states each year. Through joint ventures, we market Yellow Pages directories in Australia and will produce a number of multi-language publications for the 1988 Summer Olympics in South Korea.

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AMDOCS, Inc., a Southwestern Bell affiliate, developed and markets advanced systems that automate and integrate directory production functions, including marketing, production and billing.

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**Let's share success.**

**Southwestern Bell Corporation**

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Via The Associated Press

Via The Associated Press

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Continued on Page 13

# FACTS.



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**FIGURES AS AT DECEMBER 31, 1986:**  
**TOTAL ASSETS:**  
 US \$ 16.8 billion  
**SHAREHOLDERS' EQUITY:**  
 US \$ 1.6 billion



# Corporate Buybacks Give Market a Lift

Compiled by Our Staff From Dispatches

NEW YORK — U.S. corporations stepped into the market Tuesday to repurchase their own shares, helping to restore badly eroded investor confidence on Wall Street, analysts said.

"These guys know their companies, know precisely where they're going, and think their prices are ridiculous," said David Bartlett, research director at Ladenburg, Thalmann & Co. Meanwhile, Carl C. Ichni, chairman of Trans World Airlines Inc., said he had withdrawn his proposal to acquire the TWA share. He does not already own. He cited the deterioration in market conditions.

Under the proposal, Mr. Ichni would have paid \$20 in cash and \$25 worth of 12 percent subordinated debentures, due in 2007, for each TWA share. The total transaction was valued at about \$1.35 billion.

TWA's board approved the offer on Friday, after Mr. Ichni had increased his offer from \$20 in cash and \$20 in bonds.

Although analysts differed on whether corporate demand for their own shares at bargain prices actually boosted the market on Tuesday, they said the announcements provided a big psychological lift.

"On my list of positive market factors, the buybacks are No. 1," said Larry Wachtel, market strategist at Prudential Bache Securities.

The Dow Jones industrial average closed about 102 points higher Tuesday after Monday's 508-point plunge, and some analysts cited the buybacks as part of the reason.

"It's very positive," Mr. Bartlett said.

Analysts said the buybacks also suggest that corporations have more confidence in the U.S. economy than investors who sold in the record stock market drop on Monday.

On Tuesday, the Securities and Exchange Commission made a one-day exception to its rule of prohibiting companies from repurchasing their stock in the last half hour of trading.

Companies were allowed to continue repurchasing until the close of the market.

The rule prohibiting repurchases in the final half hour of trading helps to prevent rapid stock price rises at the end of the day, the spokesman said. The SEC stressed that the exception was made for Tuesday only.

While some of the companies are capitalizing on what they deem an investment bargain,

others may be trying to keep their suddenly cheap shares out of the hands of corporate raiders.

GAF Corp., the object of a \$2.2 billion buyout proposal from a group led by its chairman, Samuel J. Heyman, said it would buy back up to 21 percent of its common shares.

The announcement followed a statement on Monday by GAF, which makes chemicals and building materials, that Mr. Heyman's group was reconsidering and might revise its buyout proposal in light of the recent jump in interest rates and turmoil in the financial markets.

"We bought stock yesterday, more than we have recently, and will probably buy some more today," Mr. Petersen said Tuesday. He would not specify the number of its shares Ford bought Monday.

He said that the company would continue to repurchase stock under its previously announced plan to buyback 45 million shares and that it could finish the buyback by the end of this year.

Among other companies announcing buybacks were: USX Corp., up to 20 million shares; BellSouth Corp., up to 6 million shares; Citicorp, up to 5 million shares; Honeywell Inc., 5 million shares; Allegra Corp., 5 million; RJR Nabisco Inc., 5 million; Merrill Lynch & Co., 5 million; Burlington Northern Inc., 5 million; Shearson Lehman Brothers, 3 million; McGraw-Hill Co., 2.5 million; and Centel Corp., 1 million.

David Roderick, chairman of USX, said the repurchase "reflects the very strong financial position of the corporation and enables us to take advantage of current market conditions."

(Reuters, AP)

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the buyout offer for \$66.50 in cash and securities for each of GAF's 33.5 million common shares outstanding. GAF also said the management group was considering a revised offer.

GAF's buyback, based on a late Monday price of \$35 per share, could total about \$345 million. GAF shares fell about \$17.50 on Monday.

Ford Motor Co.'s chairman, Donald Petersen, said the company would accelerate its repurchase program in light of the price drop.

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## U.S. Futures

From The Associated Press Oct. 20

Season High Season Low Open High Low Close Chg.

WHEAT (CBT) 1200 bushels per bushel

Dec. 1987 1200 1200 1200 1200 1200 1200 1200

Nov. 1987 1200 1200 1200 1200 1200 1200 1200

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## MARKETS IN TURMOIL: Bond prices and the dollar show gains

## Dollar Sharply Higher in New York

**Compiled by Our Staff From Dispatches**  
NEW YORK — The dollar closed sharply higher in New York Tuesday, continuing an overnight rally started by comments from U.S. and West German monetary officials that recent differences had not weakened an agreement on exchange rates.

Analysts said the dollar also received a boost in the early going on a rebound in U.S. stock prices.

In New York, the dollar, which had been sharply lower Monday, rebounded more than 3 pennings and 2.6 yen to close at 1.8165 Deutsche marks, up from 1.8135 on Monday, and at 143.95 yen, up from 143.55.

The dollar also closed at 1.5030 Swiss francs, up from 1.4730 on Monday, and at 6.0420 French francs, up from 5.9245.

The British pound was 3.45 cents lower, closing at \$1.6515, against \$1.6555 on Monday.

All the various monetary authorities are getting involved and joining forces and showing a great deal of concern over recent turmoil in the markets," said Thomas Bauer, a trader with Bank of Montreal in New York.

Traders said one sign of cooperation emerged from a meeting in Frankfurt on Monday between the U.S. Treasury secretary, James A. Baker 3d, West Germany's finance minister, Gerhard Stoltenberg, and the Bundesbank president, Karl Otto Pöhl.

The parties agreed to continue economic cooperation under the "Louvre agreement," a statement released after the meeting said, "including cooperation on exchange rate stability and monetary policies."

Over the weekend, Mr. Baker had criticized West Germany for

## London Dollar Rates

Closing	100	100
Deutsche mark	1.8165	1.8135
Pound sterling	1.6515	1.6555
Japanese yen	143.95	143.55
Swiss franc	1.5030	1.4730
French franc	6.0420	5.9245

Source: Reuters

recent increases in interest rates. Foreign exchange traders had begun to question the strength of the Louvre accord, an agreement designed to foster stability among exchange rates.

The cooperation "is a sign of support for the dollar," Mr. Bauer said. "They don't want to see the dollar go into a freefall. Certainly, it is a reconsideration of recent differences and it is providing support for world stock, bond and foreign-exchange markets."

In London, the dollar closed with gains of more than 2 pennings.

At one point the dollar was more than 4 pennings higher, soaring almost a penny in half an hour of hectic trading as U.S. bonds rallied and several leading U.S. banks lowered their interest rates.

"That was one hell of a rally," a dealer with a major U.S. bank said. In London, the dollar closed at 1.8090 DM, up from 1.7775 on Monday, and at 143.85 Japanese yen, up from 141.75.

It also closed at 1.5005 Swiss francs, up from 1.4765, and at 6.0375 French francs, up from 5.9375.

The dollar was also higher against the British pound, which closed at \$1.6545, against \$1.6505 on Monday.

"The immediate panic would appear to be over," one dealer said, though he, like others, declined to

predict where the currency might move next.

"It's very difficult to say what such big swings might do to sentiment," he said.

Another said, "Where it goes from here, I haven't a clue. Anything can happen, though I tend to think it will go lower."

The signatories to the accord "are going to have to face facts and adjust their exchange rate targets," he said, referring to the U.S. trade deficit, which has stayed stubbornly large despite the currency measures intended to help redress imbalances.

Earlier in Europe, the dollar was fixed in Frankfurt at 1.7918 DM, up from 1.7740 on Monday, and in Paris at 6.0140 French francs, up from 5.9395.

The dollar closed in Zurich at 1.5020 Swiss francs, up from 1.4760.

Overnight in Tokyo, the dollar closed at 143.05 yen, up from 141.00 on Monday. (UPI, Reuters)

## Gold Lower in Response To Stock, Dollar Rebounds

LONDON — Gold prices slumped Tuesday in response to a weak U.S. bullion market and to a rebound in U.S. stock prices and in the dollar, dealers said.

Republic National Bank in New York closed cash gold at \$464.25 an ounce, down sharply from its Monday close of \$482. New York's Commodity Exchange settled the spot contract at \$463.20, down \$18.50 from the previous \$481.70.

Gold bullion ended at \$461.50 an ounce in London, down \$21.25 from \$482.75 on Monday's close, having fallen during the afternoon session. The U.S. bullion market sagged during early afternoon dealings and pushed gold down to \$464.30 at the afternoon fixing session from the morning settlement of \$481.60.

Comex floor traders said that the drop in gold exceeded expectation. They said prices had been expected to be only \$2 to \$3 lower, based on overnight markets. The dollar's renewed strength prompted foreign traders to sell gold in New York.

Bill Byers of Bear Stearns said that the free-fall in equities on Monday weakened the margin position of many stock traders who rushed to sell assets to sustain their margin accounts.

Erik Dunlevy of Balfour Maclean International said traders "tried to take a bearing on the stock market trend to decide if there was still a need to find a safe harbor in this financial storm."

## BONDS: Nervous Investors Rush Into U.S. Treasuries

(Continued from first finance page)

percent 30-year Treasury bond advanced by 2.24/32 points to close at 93 26/32.

The long bond yield fell to 9.50 percent from Monday's finish at 9.80 percent and 10.42 percent on Monday morning. Its yield soared into double digits last week after the report of a larger-than-expected \$15.68 billion U.S. trade deficit for August raised fears of a sharp decline in the dollar.

The dollar has strengthened against foreign currencies, buoyed by Monday's reaffirmation of the Louvre accord on currency stabil-

ity by U.S. and West German officials. Their comments seemed to lessen the likelihood that the United States would allow the dollar to decline in protest at recent rises in West German money market rates.

With long-term bond prices also gaining from the exodus of capital from the equity markets, the 8 1/2 percent 30-year Treasury bond advanced by 3/32 points to 94 22/32.

In another move that helped calm markets, the Bundesbank began to blunt this rate rise on Monday by injecting liquidity into the domestic market.

Dealers said bond investors

seemed to set aside their fear that, despite the Louvre accord, the massive U.S. trade and budget deficits would cause the dollar to fall and trigger high inflation.

Instead, in the wake of Monday's stock market plunge, they focused on the possibility of a recession, which would bring lower interest rates.

"We're also seeing money from the sidelines stepping up now, getting out of cash because they feel the market's healthier."

In the junk bond market, prices of many issues slumped by 2 to 4 points. (Reuters, AP)

## U.S. Officials Move to Smooth Roiled Markets

The Associated Press

WASHINGTON — President Ronald Reagan held an extraordinary meeting late Tuesday with the Federal Reserve Board chairman, Alan Greenspan, and Treasury Secretary James A. Baker 3d to discuss the chaos in world stock markets.

Mr. Baker rushed back from meetings in Europe to keep a closer watch on the situation and Mr. Greenspan issued a statement reassuring the nation's banks that the Fed would not move to tighten credit.

Analysts suggested that the government had limited options for dealing with the crisis.

As financial leaders of industrial

nations conferred by telephone, analysts suggested that a statement reaffirming a commitment to hold the dollar at current levels in an effort to quiet tumultuous international markets might be forthcoming by day's end.

Meanwhile, a senior White House economic adviser predicted in an internal forecast that the nation might face a recession as early as next spring barring a dramatic reversal of the market plunge, according to an administration official.

The new forecast reversed an earlier projection of continued growth in the economy at least through the end of President Reagan's term in early 1989, said the official, who spoke only on the condition of anonymity.

The new projection was based on a contention that the damage done to the economy from Monday's stock market crash might be too deep to correct, the source said.

Earlier Tuesday, Mr. Greenspan said the Federal Reserve would make easy-term emergency loans available to banks to preserve the "liquidity" of the financial system.

Analysts said the Fed action was a means of assuring banks that the Fed would make loans available with few strings attached to help boost bank reserves in case of any emergencies.

## SLIDE: Stock Fall Seen Adding to Risk of U.S. Recession

(Continued from Page 1)

Columbia University, said that corporate planners may decide to delay capital spending projects.

"Businesses make decisions every day and they may already have decided to postpone investing in new plant facilities," he said.

Allen Sinai, chief economist at Shearson Lehman Brothers, said he reckoned that the paper losses on Wall Street on Monday would translate into a \$55 billion drop in consumer spending next year.

This would reduce the already modest 3 percent economic growth anticipated next year by 1 or 2 percentage points, he said.

This in itself would not bring on a recession. But it clearly increases the vulnerability of the economy, especially if the market fails to find solid ground in the days and weeks ahead and posts another significant decline.

"It raises the odds on a recession," Mr. Sinai said. "There's no doubt that the risk is much higher now than it was last week. I thought a recession was likely in 1989, but the concern now is about 1988."

Barry Bosworth, an economist at the Brookings Institution, a private research group in Washington, said he believed the impact of the stock market fall would be less severe.

He said it would trim growth prospects next year by a half percentage point, which he described as a "marginal."

In June, the administration estimated that the economy would grow 2.6 percent this year, adjusted for inflation, and 3.3 percent next year. New estimates will be given in the president's economic report to Congress in January.

Spokesmen at the Council of Economic Advisers and the Treasury Department had no comment

on how the stock market's plunge might affect growth estimates.

Still, the risk of a recession has replaced, at least temporarily, concern about inflation as a major theme in the stock market.

"Inflation psychology has slipped," said Beth Reimers, a vice president at Dean Witter Reynolds in New York.

She said that was one reason that government bond markets have surged as stocks have spiraled.

Moreover, economists and investment strategists said they do not see any easy way to overcome these recessionary fears.

"There's really two elements that will restore confidence," said Mr. Horowitz.

"One would show Washington doing something about the budget deficit," he said. "The other would show that the major economies can work together to solve their problems."

**Tuesday's OTC Prices**  
NASDAQ prices as of 4 p.m. New York time.  
Via The Associated Press

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	AAV	1.88	11 1/2	11 1/2	11 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month High	Low	Stock	Div. Yld.	52 Week High	Low	4 P.M. Close
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2
179 1/2	179 1/2	ADP	3.40	34 1/2	34 1/2	34 1/2

12 Month				Sales in					
High	Low	Stock	Div. Yld.	100s	High	Low	4 P.M.	Closes	Net
42	19 1/2	GoGuH	23 1/2	5	302 1/2	49 1/2	32 1/2	2 1/2	-11
12 1/2	7 1/2	GmVw	2 1/2	27 1/2	89 1/2	7	2 1/2	1 1/2	-1
10 1/2	13 1/2	GoGuH	2 1/2	2 1/2	2 1/2	12 1/2	12 1/2	1 1/2	-1
10 1/2	10 1/2	GmVw	2 1/2	2 1/2	2 1/2	12 1/2	12 1/2	1 1/2	-1
20 1/2	7 1/2	GmVw	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	-1
20 1/2	20 1/2	GoGuH	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
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11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
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11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	-1
11 1/2	11 1/2	GmVw	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	







## SPORTS

## Back at Home, Cardinals May Thicken the World Series Plot

By Thomas Boswell  
Washington Post Service

ST. LOUIS — Get ready for the World Series plot to thicken. O.K., O.K., make that root for the plot to thicken.

Minnesota and St. Louis could be such wonderful foils for each other, and produce such a marvelous theatrical six- or seven-game series with building tension and complexity, that it would seem like a loss to fans in general if the woe-begone Cardinals simply decide they can't beat a team as hot as the Twins in a park as crazy as the Hubert H. Humphrey Metrodome.

To their credit, both teams seem to be in almost ideal frames of mind at the moment. Neither is in need of a reality check. The Cardinals know they are on the ropes and that the Twins have the confidence, firepower and anger to close out this Series in St. Louis. Minnesota, thanks largely to Manager Tom Kelly's acidic tongue, knows the Cardinals are the decade's proven masters of the postseason comeback.

"They still have to win two. We have to win four, unfortunately," said John Tudor, who was to start Tuesday night against the eminently mortal Les Straker, who spent 10 years in the minors and writes notes to himself in his glove between innings, then refers to them as "the Cardinals."

"History says the odds are against us," added Tudor. "0-2 this year to Straker's 8-10. 'But if we'd listened to history, we wouldn't have beaten San Francisco (in 1987) or Los Angeles (in '85) or the Brewers (in '82). Or lost to Kansas City (in '85)."

Perhaps no team has ever had more experience of and perspective on postseason wind shifts. The Cards have come from behind, 2-3, 0-2 and 2-3, to win in October — year lost from 3-1. They know that in the last 10 years, the dominant trend in postseason baseball has been the collapse of prohibitive favorites after one traumatic momentum reversal.

If you'd spent the last decade betting heavily against every team that led a playoff or Series by two games, you'd be rich enough to own a team. Five of the last nine Series have seen such 2-0 or 3-1 flops. It has befallen Los Angeles, Baltimore, the New York Yankees, the Cardinals and Boston. Five league championship series have seen it, too — just in the 1980s. Remember the Angels, Cubs, Dodgers, Blue Jays and Angels again.

That's right, in the last nine years 10 teams have blown the kind of lead that Minnesota has. In 19, 19 teams with postseason leads have ended up "ignominious" losers since 1977. The best guess here is that with 67 million people watching, it is extraordinarily easy to get

happy too soon; conversely, it may be far easier than ever before to panic when you feel the humiliation of losing something you thought you owned.

Still, the Cardinals aren't banking on anything as flimsy as a mystery trend. "Now, in Game 3, it's win or else," said Tudor. "Otherwise, it's a long road back without much gas in the car."

"Like Sparky Anderson said when he went home down two games, 'I'm not gonna lead you. We're in deep trouble,'" said Cardinal Manager Whitey Herzog.

The Twins sound exactly opposite. Kelly lectured Dan Gladden after Gladden said he'd thought about "putting down a flap," a la Jeff Leonard, as he ran out his grand-slam home run in Game 1. "It's a dumb thing even to say," said Kelly, a smart, tart man who's perfected playing dumb and bland.

Pitcher Frank Viola, asked if he was "thinking sweep," snapped: "Why? There is no way this team is going to be overconfident. We've been through so many bad times we're not going to take the good times for granted."

Both the Twins and Cardinals are true to the lessons of their heritages.

The Twins are still 118 games under .500 in the '80s; the Cardinals are 103 games over since Herzog arrived in '81. What Twin can

imagine counting chickens? What Cardinal would think of quitting?

Both teams recognize the obvious dynamic at work in this Series. The Twins are a big-inning American League team that has laid on the Cardinals two of the larger innings in Series history. "We haven't done anything to embarrass ourselves except allow two big innings," says Tom Herr. "We can't let 'em string hits." St. Louis appreciates the irony that the Twins' eruptions have mostly been Cardinal-style ground-ball singles followed by something barrel-chested that goes over or off a fence.

St. Louis pitchers have had plenty of quick, easy innings. But, twice, when they needed one key pitch or catch, the Twins would not allow it and completed their carnage.

The Cards are a little-inning, hit-

and-run speed National League team. "They say speed never goes into slumps," says Herzog. "That's not true."

When speed fails to steal first base, teams like the Cardinals go as dead as slugging clubs do when they lose confidence and start chasing pitches. The top three hitters in the St. Louis order are the culprits far more than the absence of Jack Clark or the limiting injuries of Terry Pendleton and Willie McGee. Vince Coleman, Ozzie Smith and Herr have an .083 Series on-base percentage. Pitchers do twice that well.

In fact, in three World Series, Smith (8-for-55) and Herr (8-for-59) have been batting fops every time. In this postseason, the three top-of-the-order Cards (hitting .196) have six runs and three steals — less than a third their normal numbers. All normally have good

eyes; now all are impatient, especially Herr (no walks).

Play out this scenario, for fun. Tudor wins Game 3 and Viola takes No. 4 (or they both lose — either way, 3-1 Twins). Kelly starts Bert Blyleven in No. 5, going for the quick kill, just as he did against Detroit. Herzog counters with Bob Forsch, as he's said he will. On three days' rest, the 36-year-old Blyleven has a poor day. The Twins bullpen can't hold. St. Louis steals a wild one. Back to Minnesota where a rested Danny Cox beats Straker — hardly a remote possibility.

Now, we have Viola at home, pitching on three days' rest for the second straight time against Tudor on four days with his experienced Cards behind him facing the pandemonium of the Metrodome.

Who do you like in that one?

## Two English Teams Are Resurrected After the Bedlam and Inferno of 1985

International Herald Tribune

LONDON — If you give credit to sport as a microcosm of life, there is a timely message of renewal in England's soccer back-

merely because it is winning again but because it has grown to embrace the higher ideal that sport also has a duty to entertain.

Regular 4-0 victories are one thing, style quite another; it is embodied in John Barnes, the new wing. For years Liverpool triumphed without winners. It had functional, aggressive, dual-purpose runners who defended as readily as they attacked.

Barnes will never reliably block breakaways. Yet in nine games he has become a Merseyside cult figure. He flows with apparent carefree abandon, his speed and control are gifts, his movement is hypnotic.

Barnes is Liverpool's first black hero. With typical wit, his most ardent supporters dub him Tarnace, the Black Highway, a play on his color and a reference back to Steve Heighway, the last adored winger on their team.

Last Saturday, the Black Highway was a direct route to ecstasy. Twice Barnes created goals, and twice he scored in another 4-0 thrashing, this time of second-place Queens Park Rangers. His final score came from a run half the length of the field; he cut in and bamboozled opponent after opponent.

"I sense the buzz from Liverpool fans when I get the ball," Barnes

says. "They know I like to go on a run past three or four defenders. It is neither my style nor my nature to get cluttered into people — I try to hurt defenders with the ball and with my skill."

His union with the crowd testifies to Liverpool's changed values. It's a deprived city, pine compels it to be first and last. Last Saturday, almost 44,000 squeezed inside Anfield Stadium; 3,000 were turned away.

Few see incongruity in their willingness to pay what they can ill afford while team manager Kenny Dalglish earns £160,000 (£269,000), the highest base salary in British soccer.

Nor do they see the paradox of a team worth £11 million performing amid substandard housing, where street urinals remind one of the Great Depression.

Because of Heysel, and the consequent European ban, Liverpool lost its prolific goalscorer, Ian Rush. On Wednesday, he will play for Juventus in the European Cup. Last Saturday he watched rebuilt Liverpool, and agreed the team was better than the one he left last summer.

Barnes had come for £900,000, a third of the money received for Rush; striker John Aldridge cost £775,000, and Peter Beardsley a British record £1.9 million.

By Sunday Rush was heading back to Turin. Liverpool was spending again, spending £800,000 Ireland midfielder Ray Houghton, who joins 14 other internationals vying for places on the team.

There are no internationalists at Bradford, but its resurrection is the greater act of faith and desire. Negligence and impoverishment led to Bradford's aged wooden grandstand incinerating its own supporters. Who would want to go back? How could the club survive?

The answer came through suburban Yorkshire grit, the need to turn tragedy into some kind of monument to those who perished. Priorities were right: £4 million flooded in by public donation for the bereaved and the injured. The West Yorkshire Metropolitan Council then prevented bankruptcy by providing funds to rebuild the stadium.

The new facility is a £2.6 million safe house. No hooliganism can approach without surveillance by closed-circuit television, in theory no electronic door will remain locked in an emergency.

Which British team has widest, wealthiest, appeal throughout the world? Manchester United. What triggered that appeal? The Munich air crash of 1958, which gutted Manchester of its stars.

In tragedy, we remember them. Of course, the team suffered. After Bradford burned it had to sell its most experienced, and it sacked its manager. But through the struggle its community cared, and together they have new hope of rising to Division 1.

"As professionals we obviously had to separate ourselves from the tragedy and get on with it," says Terry Dolan, who stepped up from youth coach to team manager. "I would be false to say it is the factor in all that we do, but it is part of us, a way to do something for the memory of those who died."

Dolan signed a five-year contract two weeks ago, giving him license (for as long as that lasts) to guide his young team's climb toward a status not even fathers of the dead can recall.

The new stadium holds 15,500, and the surge upward is already attracting three-quarters of that.



John Barnes, right, keeping Arsenal's Steve Williams at bay; "I sense the buzz from Liverpool fans when I get the ball."

## SCOREBOARD

## Football

## College Top-20 Polls

Rank	Team	Points
1	Oklahoma (42)	1,179
2	Nebraska (12)	1,134
3	Miami, Fla. (4)	1,108
4	Florida State (6)	1,075
5	LSU	975
6	Auburn	925
7	Clemson	844
8	UCLA	822
9	Georgia	772
10	Georgia Tech	732
11	Notre Dame	674
12	Florida	674
13	Georgia	674
14	Michigan State	674
15	Indiana	674
16	Ohio State	674
17	Alabama	674
18	Penn State	674
19	Oklahoma State	674
20	Michigan	674

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## NFL Standings

Rank	Team	Points
1	Oklahoma (42)	1,179
2	Nebraska (12)	1,134
3	Miami, Fla. (4)	1,108
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19	Oklahoma State	674
20	Michigan	674

## Transition

BASEBALL  
American League  
BALTIMORE — Extended the contract of Terry Kennedy, catcher, through the 1989 season.

## Hockey

## National Hockey League Standings

Rank	Team	Points
1	Oklahoma (42)	1,179
2	Nebraska (12)	1,134
3	Miami, Fla. (4)	1,108
4	Florida State (6)	1,075
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15	Indiana	674
16	Ohio State	674
17	Alabama	674
18	Penn State	674
19	Oklahoma State	674
20	Michigan	674

## Tennis Leaders

Rank	Player	Points
1	Oklahoma (42)	1,179
2	Nebraska (12)	1,134
3	Miami, Fla. (4)	1,108
4	Florida State (6)	1,075
5	LSU	975
6	Auburn	925
7	Clemson	844
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## SPORTS BRIEFS

## French Rugby Team Sets 1988 Tour

PARIS (AFP) — The French national rugby union team will tour Argentina and Paraguay next year, it was announced Tuesday.

The tour will include test matches in Buenos Aires on June 18 and 25 and will conclude three days later against Paraguay.

## Summer Kratochvilova Calling It Quits

PRAGUE (AFP) — The retirement of Jarmila Kratochvilova, whose career as a runner peaked when she won the 400- and 800-meters at the 1983 world championships, was announced Tuesday.

Kratochvilova, now 37, broke the 400-meter world record when she won the 1983 gold medal. She finished fifth in the 800-meter final in September's world championships in Rome.

## or the Record

Obed Ariji kicked two field goals and Ted Wilson scored on a 16-yard pass as Washington beat Dallas, 13-7, in a National Football League game Monday night in Irving, Texas.

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## The Teen Fathers Club

## Kenneth Tynan: The World and His Wife

Two black and white mugshot photographs. The left photograph shows a man with dark hair, wearing a dark jacket, looking directly at the camera. The right photograph shows a woman with dark, shoulder-length hair, wearing a dark jacket, looking directly at the camera. Both images are grainy and appear to be photocopies.

**Kathleen:** "We are now separate."

*Victoria Glendinning's latest biography, of Rebecca West, has been published recently.*

***A Chorus of Trumpeters***  
***From Armstrong Archives***

A bust of Edgar Allan Poe was stolen from the Poe Museum in Richmond, Virginia. "This is a major crime in the art world," said Bruce English, president of the Poe Foundation, which owns and operates the museum. "I'm very disturbed. It's irreplaceable. I have insured for \$2,000 but it's worth more than that." English said the plaster bust is thought to have been completed in 1909 to serve as a model for a bronze version made by the sculptor Edmond Quinn. "It's probably the most famous bust of Poe," said English, "and this is the plaster model used by the sculptor to make his bronze cast-

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